TRIVANDRUM

MEDICAL COLLEGE

Journal

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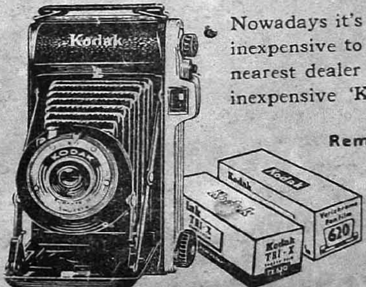

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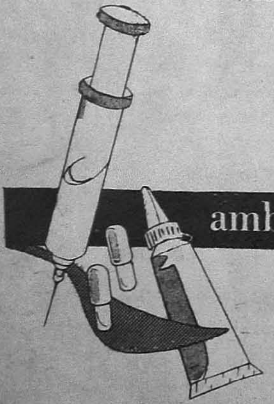

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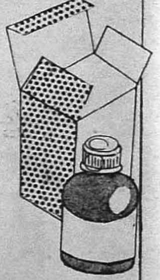

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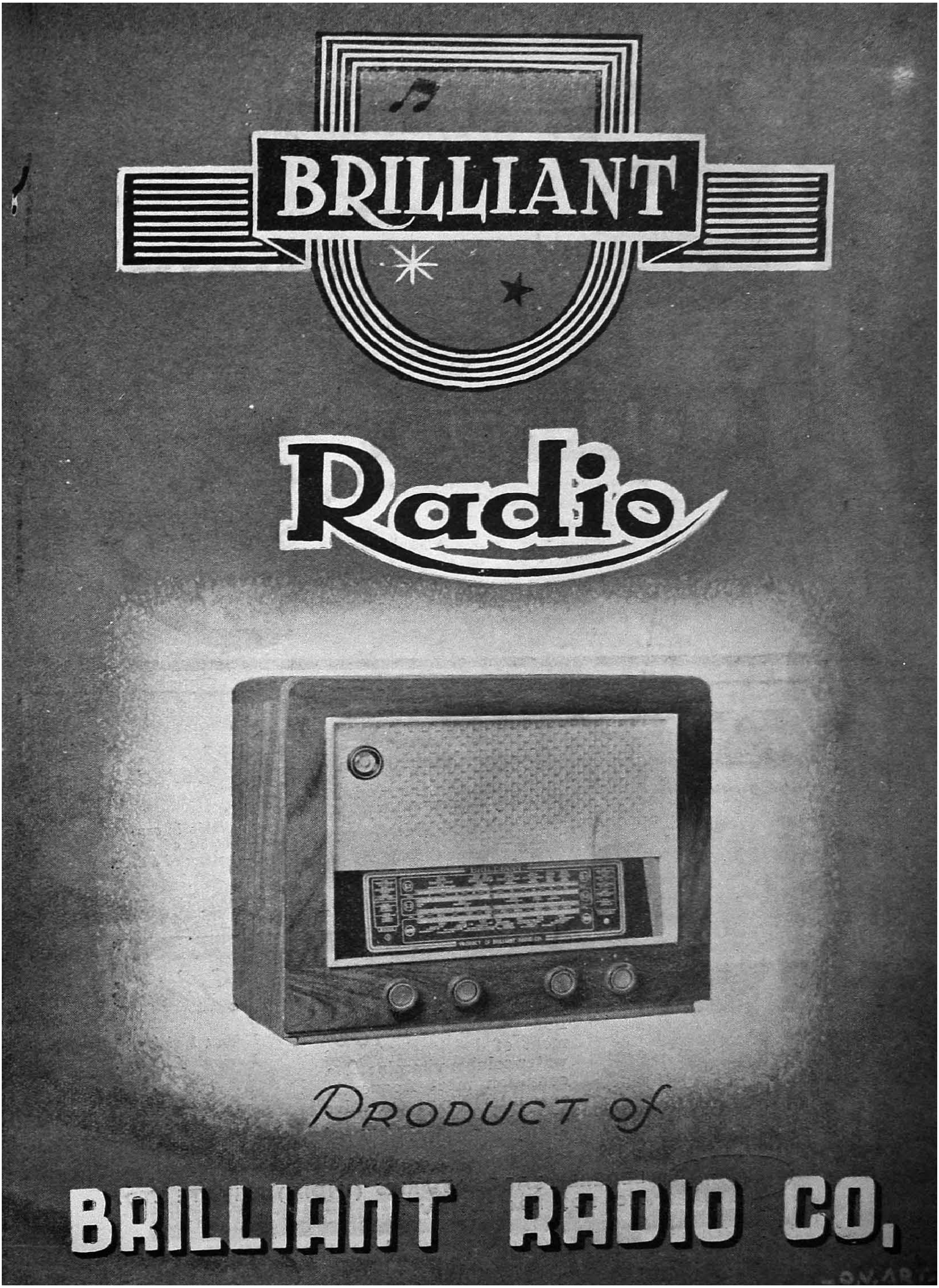
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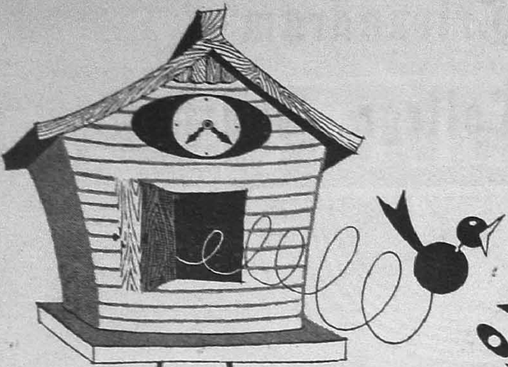

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1956 - '57.

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Final Year.

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The Editors accept no responsibility for the views and opinions expressed by the contributors.

Editorial

Much water has flown under the bridge since our last issue. This year has been the most memorable and eventful of all the years since the birth of our Alma. She, now six years old still in the childhood, had her first delivery last April. As luck would have it Dr. R. K. K. Tampan, the veteran Obstetrician of the south was here in time to make the child deliver safe. The technique of delivery was entirely new that out of forty four only twenty five were extracted in April and the rest were left inside for next December, perhaps to lessen the strain on the young mother. " The tree is known by the fruit it bears " is an old dictum The first crop we had this year was, as is usual of the maiden crop, few in number but tasty enough.

The changes in the staff of the College has been phenomenal compared to previous years. Dr. R. K. K. Tampan joined the College as Professor of Obstetrics and Gynaecology, in his own words, 'a dream come true,' to come to his own land of birth. He was the Director of the Upgraded department of Obstetrics & Gynaecology in Madras and we hope the day is not far off when we will see him as the Director of an Upgraded department here also. There has been many changes from 'the bench to the chair' in the appointments of Demonstrators in the various departments. It is indeed a happy thing to see the students of the institution becoming the teachers the next year.

The conduct of the Annual Session of the XXXIII All India Medical Conference was one of the big events of the year. The students of the college as volunteers and the staff of the college by their sincere and tireless work earned a great reputation which they deserve only too well.

The year does not lag behind in the number of distinguished guests who visited the college. Among them mention may be made of Dr. Helen Taussig the well known International cardiologist, Dr. Pieper & Dr. Volhagen of the University of Liepzig, expert team of Tuberculosis specialists from Canada. Dr. Dundas of the British Council and Nuffield Foundation, Drs. Timothy Baker & John C. Hume of the T. C. M.

We are indeed proud to write that Dr. Raman our Principal and Professor of Medicine was elected as member of the All India Institute of Medical Sciences and Dr. T. V. Mathew Prof. of Anatomy was given Honorary Membership of the Anatomical Society of India, an unique honour to the Kerala State.

The activities of the various associations this year have been exemplary. As seen from the reports of the various associations, we can be proud that we have done many things to bring glory and fame to the Alma Mater. This year we wanted to publish two issues of the College Magazine but was limited by finance. We hope next year at least our dreams will be visualised.

With heavy hearts we bid farewell to Professor N. Krishnan Thampi and Dr. Kumaran Nair, who are retiring after their distinguished service. In them we are loosing the entire teaching staff of the Department of Preventive Medicine. The College, the young child of six she is, cannot reconcile with the loss of Professor Krishnan Thampi and Dr. Kumaran Nair, who made up the Department and raised it to such great heights, so that there were no two opinions about it being acclaimed as the best in any medical college in India. Prof. Thampi though in his sixties has a spirit quite young to be one with the students. The popularity and respect which Dr. Kumaran Nair commands from the students is only too well known to require any mention. We wish both of them a long and happy retired life.

Dame Rumour is very busy telling everybody that Dr. T. V. Mathew, Professor of Anatomy is retiring this year. We do not believe it since we believe in hoping for the best always. Prof. Mathew is the first professor of this college. There are few Anatomists to equal him, in India to-day. We were lucky indeed to have his unique services so long. It would indeed be an irreparable loss if he is to retire. Let it not happen now. We have great pleasure in welcoming Dr. Sundaram the Professor of Preventive

Medicine in succession to Dr. Krishnan Thampi. We wish him a nice time in the college and hope he will keep up the high traditions laid by his predecessors.

The Second Five Year Plan is half through and when complete, the fruits for us will be multifarious. Equipments and buildings will be made the best. We are quite optimistic. We hope within a few years the dreams of the people of Kerala will come true. The campus will become the LAND OF AESCULAPEUS.

We are very sorry for the poor quality of paper we have to take for printing. The non-availability of good paper put limitations on our attempts to make the getup the best.

STOP PRESS

We congratulate Dr. M. Thangavelu Prof. of Pathology on his assumption of the new post of the Vice-Principal. Best wishes and congratulation to the new Prof. of Surgery Dr. R. Kesavan Nair.

We are proud and very glad to announce that our M. B. B. S. Degree has been recognized by the Indian Medical Council. It is indeed a unique honour and rare privilege to attain recognition when the first batch of students are only just out of the College. We thank and congratulate all the authorities concerned.

JAI HIND

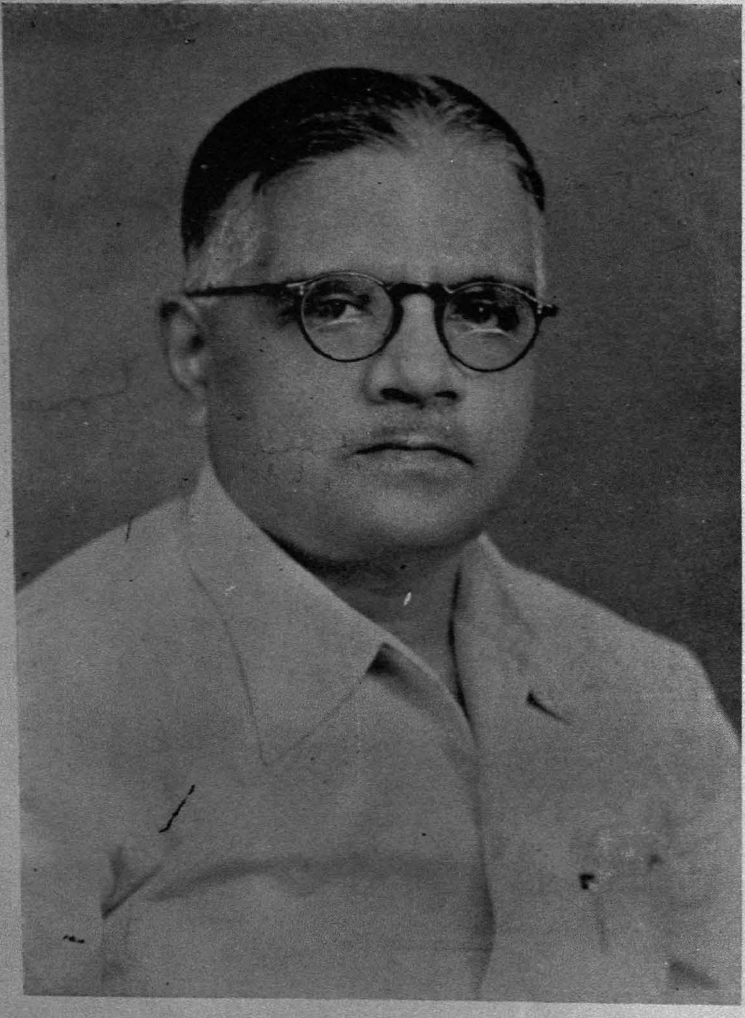
Editors.

OUR PRINCIPAL

DR. T. K. RAMAN

MEMBER OF THE ALL INDIA INSTITUTE OF MEDICAL SCIENCES

7 APR 1957



DR. N. KRISHNAN THAMPI
PROF: OF PREVENTIVE MEDICINE.
RETIRED AFTER DISTINGUISHED SERVICE.

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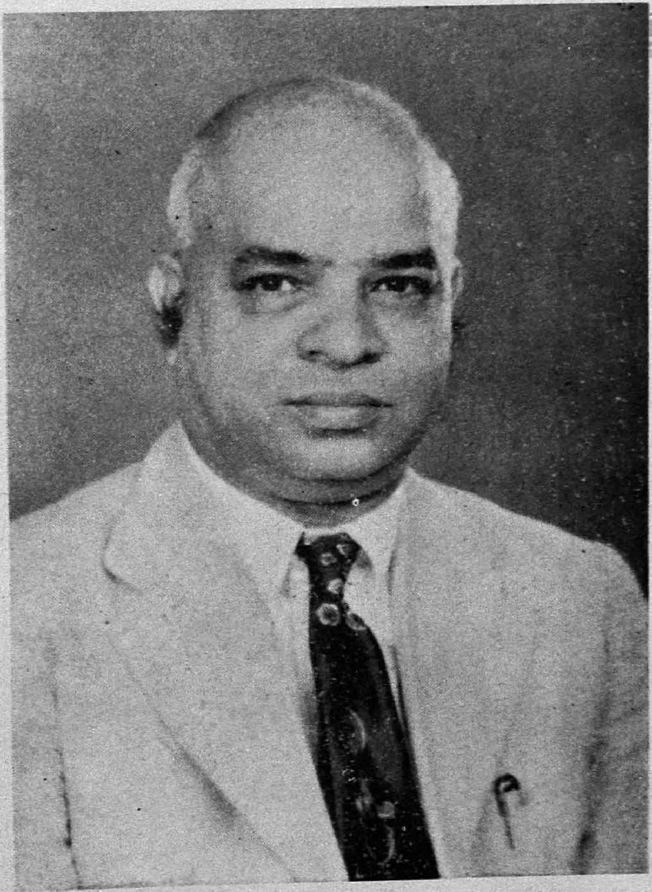

DR. R. K. K. THAMPAN
PROF. OF OBSTETRICS AND GYNAECOLOGY

I do solemnly swear by that which I hold most sacred ;

That I will be loyal to the profession of medicine and just and generous to its members ;

That I will lead my life and practise my art in uprightness and honour ;

That into whatsoever house I shall enter, it shall be for the good of the sick to the utmost of my power, I holding myself aloof from wrong, from corruption, from the tempting of others to vice.

That I will exercise my art solely for the cure of my patients and will give no drug ;

Perform no operation for a criminal purpose, even if solicited, far less suggest it ;

That whatsoever I shall see or hear of the lives of men which is not fitting to be spoken, I will keep inviolably secret,

These things I do promise and in proportion as I am faithful to this my oath may happiness and good repute be ever mine the opposite if I shall be forsworn.

(Hippocratis)

'Students Yesterday, Doctors today'.

The first batch of Students: with the members of the staff

APR 1957

STUDENTS OF THE FINAL YEAR
1956 – '57.

The Orderly Development of the Upright Gait

A. PIEPER & H. THOMAS. LEIPZIG.

In teaching films we see occasionally wonderful performances of rare birds and mammals during their hatching. But the development of the young baby is no less wonderful, but only not recognised because it happens before the eyes of everybody and is taken as evident. And yet it has got its own charm because to perceive the happenings is to follow the laws of human development and the genetic story.

The human new born differs greatly from the grown up since the function of brain is in a very low stage of development. The part of the brain which is of the greatest importance, the hemispheres, are not yet functioning. Therefore the performance of the brain in the first year of life cannot be put into the same neurological scheme as of the grown up.

The new born is not yet able to keep its head properly in the space. If he tries to sit up he sinks together. At the end of the first year the child is able to run about freely. So we see in the first year of life a very stormy progressive development of the static abilities, which are, not less quickly followed by the intellectual abilities. After O. Forstad the new born is a *Pallidum being.* The young infant can perform with his limbs only mass movements which are directed from the Pallidum without being checked by the Striatum while the aimed singular movements which are directed by the centres of movements in the Cortex are still lacking During the first year the function of the medulla extends upwards into the hemispheres. At the time of 1 year the child differs neurologically only little from the grown up. This development takes place before our eyes in an orderly manner going through many steps.

Mammals run on all four and don't fall so easily while man gets himself upright and uses only his legs, and no more his arms for running and creeping. He diminishes with it the supporting surface of his body and while doing so the gravity centre is being put higher. Because of it the body gets an unstable balance. How difficult to get it and keep it, we can see in the trials of the young child to get at his sitting position during which he is always falling. Endless efforts are needed until he is able to walk firmly and surely on his legs. He is supported in his trials by his inborn want to improve his abilities inspite of all the set backs.

The young child gets supported by a row of grouping reflexes which at least at the beginning, he is quite unconcious. They do suitably fit in

one into another and enable him through his ripening to better performances. The corresponding reflex centres develop in an orderly manner in succession. During the stated development always the same steps are being passed through. We do assume that by the development of higher brain centres these grouping reflexes, get finally checked.

Magnus and co-workers among whom Rademaker's name should be mentioned before all, investigated in animal experiments the reflexes, position and movements. They have shown that in all the animals you can set free again the deeper reflexes by removing or intoxicating the higher parts of the brain. They are the same ones as those we find in the healthy infant. In the human being besides at the infant age, we find that release in certain illnesses.

Many a time in the newborn besides taking the food it is possible to evolve co-ordinated rythmical movements which reoccur later on in the same manner as the independent locomotion. These reflex movements are stepping, ascending, creeping and swimming. They do not directly pass over into the later independent walking, ascending, creeping and swimming. They disappear for a time before they later develop i.e. the reflex stepping, ascending etc. disappear and only after a lapse the independent stepping etc. develop. The trials to keep them up have not succeeded. There is therefore only a superficial similarity between this reflectorically evokable rythmical movements, and the independent locomotion.

The ape-baby holds his both hands to the mother's abdomen so that her breast is within reach of his mouth and he gets also continuously carried by her. The human infant instead of it, against his own wish is put into bed and now-a-days taken out by his mother only to be fed. So in contrast to the ape-baby the bed position is the physiological one for him. To gain new static abilities he has to get over it.

The first and most important thing the infant has to learn is the right holding of his head in the space, the parietal parts above and the opening of the mouth horizontally. This ability is enabled to him through the *labyrynthyl reflex upon the head.* Already in the abdominal position does the infant try, if at first only shortly, to lift up its head into, the normal position, to the gravity centre. Later on he tries to keep it up if possible. Still later in the abdominal position the upper part of the body follows the head which is at first supported by reflex and later by the extended arms.

It is also necessary for the sitting and standing, to keep the head rightly in the space. How much the just acquired balance is being disturbed as soon as the head goes out of position to the gravity centre is shown in the picture.

Also the position of the arms and legs get disturbed, the position determined reflectorically from the position of the head.

Hanging by the arm
by the hand grasp reflex

Stepping movement of the
newly born.

30 APR 1957

Stepping movement
of the newborn

Climbing movement
of the newly born.

Stepping movement of
the new born.

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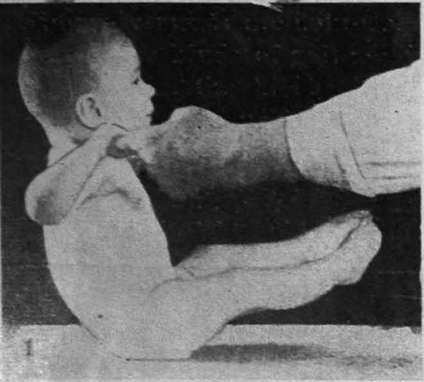
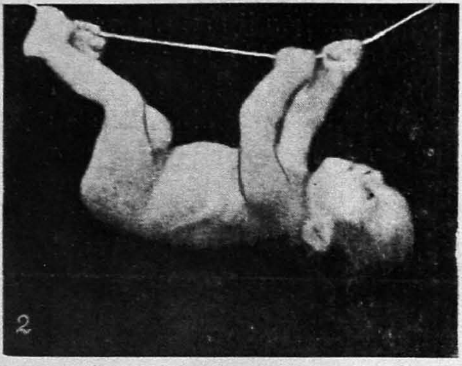
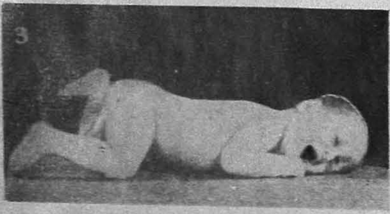
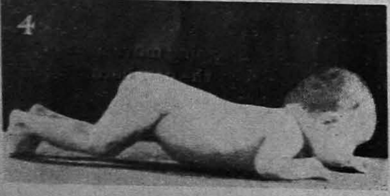
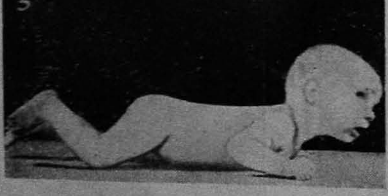
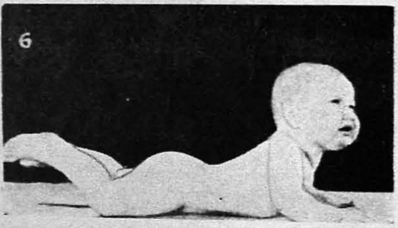


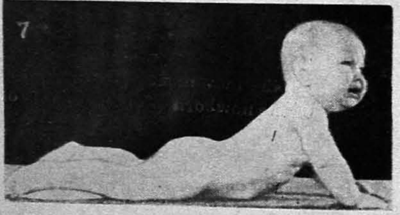


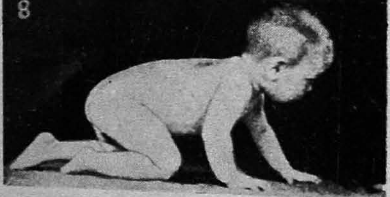












1 8 months 13 days. Tonic raising reaction of the arm and stretch reaction of the legs in the backward slanting sitting posture. The child holds itself and is not held.

2 Hanging by the arm by the hand grasp reflex and at the same time hanging by the foot by the foot grasp reflex.

3 20 days. The Labyrinthyl reflex of the Head is yet absent. The head is turned sideways. (Protection from suffocation.)

4 2 months 10 days. Begining of the Labyrinthyl reflex of the head and supporting reaction in the prone position. Look obliquely downwards. Oblique wrinkles on the fore head through the contractions of the muscle Frontalis serves the effort to raise the head and the look.

5 3 months 7 days. Labyrinthyl reflex of the head in the prone position, The raising of the head is not of long duration and not entirely to the normal position. Supporting reaction begin in the bending of the arm in an acute angle to raise the upper part of the body from the ground. Look is more strongly raised.

6 8 months. The Labyrinthyl reflex of the head bring the head in the normal position. (crown of the head is above and orifice of the mouth is horizontal. Look is straight and upwards. The supporting reaction from the arms bend at right angles raise the upper part of the body further from the ground.

7 8 months. Supporting reaction in the stretched arms raise the upper part of the body still further from the ground.

8 257 days. Begining of the crawling. Supporting reaction in stretched arms and bent knee. Crossed co-ordination (Left arm and Rt leg set forward).

Before the child can turn around himself from his physological position on the bed into the abdominal position (on which the further progress depends) he is put by his mother on the abdomen so that he can get early trying out his abilities in this position. Before he can sit up himself he will be, put up by his mother. Before he can stand up himself he will be stood up by his mother. So he is all the time helped and encouraged by his mother.

Magnus and Rademaker has shown in the animal that the standing is a "supporting reaction" which in the four-footed reflectorically originate in the fore and hind-legs as soon as they get in a suitable position. The supporting reaction changes over usually to the yielding limb through a simultaneous contraction of the flexors and extensors into a rigid column which is able to carry the body. They support the standing of every grown up man but can be demonstrated in the new-born when he is put up in the upright position.

The infant gets through the stage of a kind of a four-footer. In this he moves forwards with his arms and legs. At this stage it is possible to demonstrate the supporting reactions of the arms which carry the load of the upper body They are no other kind than the forelegs of the dog with which Rademaker worked. One thing, the infant starts from one stage which we do not find in the dog. It is said that during the crawling he supports himself on his reaction in the shoulder and elbows; later on during the creeping he lifts up himself on the arms with extended elbows. This is exactly as in the dogs with the forelegs.

We do differentiate four forms of independent locomotion i.e. the crawling, the creeping, the sitting and walking. Ontogenetically, the ancestors of the human beings moved on all fours. As a stage of development the human child has to get so again. During the crawling he uses for the locomotion his arms alone as the abdomen is not lifted up from the base and the legs are being dragged without supporting the locomotion. During the creeping the arms are mostly extended and legs bend at knee. Generally speaking the arms are always ahead of the legs during the development because during walking, as the legs are extended as previously the arms were, the arms are no more used for locomotion. As an intermediate stage which can occassionally be seen in the ape, is the sliding on the gluteal parts during which the legs and arms support the locomotion.

Variable kinds of walking develop one after another simultaneously and partly, but usually the lower forms get replaced by the higher form and so finally the upright gait has been left. The lower kinds of walking can only be seen when the child has got opportunity to perform. Especially in institutions where there is not enough space

given to them, the creeping and sliding movements are not seen. Then the lower kinds of gait are jumped over so that the child begins straight away to the upright gait. The lower kinds of gait are not therefore necessary for the development of the upright gait.

Children are not filmstars and do not display their abilities as we wish. They do it only when it suits them and usually does not always fit in with our wishes. All the children get easily annoyed by strange people, apparatus and illumination so that they very quickly refuse co-operating. Besides it, they are not always able or willing to repeat their movements and so the occasion is quickly passed. We have tried to show long performances but limits were put up to us. Anyhow we hope that the various stages of develepment has been kept. They are partly known but so common that most of them do not get sufficient attention.

The Doctor concluded his examination. "I can't find the cause of your trouble. Offhand, I'd say it's due to drinking.

The patient shook his head understandingly. "Perhaps, I will better come back, Doctor, when you are sober."

3 0 APR 1957

Scoliosis

DR. K. I. GEORGE, F. R. C. S., F. R. F. P. S.
(Opthopedic Surgen, Medical College Hospital)

Scoliosis, recognised and given its name by Hippocrates, is a deformity of the spine characterized by lateral rotatory curvature of one or more segments of the spinal column. It is a deviation of the spine in two directions, lateral and rotatory, that is, in the frontal as well as in the horizontal plane. Deformities which lack these two deviations should not strictly be called scoliosis. The so-called empyematic scoliosis is caused by the pull and traction of the shrinking fibrous masses in the pleural cavity. What is termed sciatic scoliosis is produced by contraction of certain portions of the muscles of the back in response to a sensory stimulus. These deformities are not true scoliosis but only lateral deviations. They lack the rotatory element which is an essential part of the deformity. Furthermore, deformations of the thorax and pelvis with adaptive changes in spinal ligaments and muscles are super imposed on the spinal deformity. It is the combination of these components which characterises scoliosis.

Classification :

There are two distinctly different types of scoliosis :

(1) Postural or Functional scoliosis and

(2) Structural scoliosis.

Postural or Functional scoliosis

Is a temporary curvature of the spine dependent upon the position of legs or pelvis or due to weak musculation and faulty posture. It is present in the sitting or standing positions but is absent on lying and on forward bending. It could be corrected voluntarily. It is common in children and results from the habitual assumption of some faulty attitude or posture. Postural curve is usually slight and do not progress much. Only in a very few percentage of cases, structural changes occur and become structural scoliosis. Usually the curve is a general or total curve, convex to the left.

Structural scoliosis :

Is a permanent curvature of the spine due to deformity of the vertebral bodies or discs to weakness or contracture of the muscles and ligaments of the spine.

The spine is deformed. There is associated changes in chest or pelvis. It is present in all positions of the body. It may be of any degree and tends to increase during the period of growth.

Aetiology :

Scoliosis may be congenital or Acquired.

Congenital Scoliosis :

Here the deformity is caused by faulty ossification of one or more

vertebrae. The body of the vertebra develops from one primary centre of ossification. But this primary centre may be formed by the fusion of two centres placed side by side, one for each half of the body. If one of these two centres do not form there will be failure of development of one half of the body producing the so-called 'Hemi Vertebra.' Such hemi vertebrae produce the congenital scoliosis. The deformity, of necessity, increases with the growth of the hemi vertebrae and may become extreme.

- Scoliosis
  - Postural
  - Structural
    - Congenital
    - Acquired
      - Idiopathic
      - Myopathic
        - Paralytic
        - Spastic.
      - Osteopathic

Acquired Scoliosis :

Majority of scoliosis occur in adolescents and without any known causative factor. This, therefore has been given the name of *Idiopathic Scoliosis* and constitutes about 60% of all scoliosis.

Otherwise scoliosis may be due to diseases of the bone as Rickets, Tuberculosis, Fractures, Dislocations, Infections or due to diseases of muscles producing muscular imbalance as Infantile Paralysis or Spastic Paralysis. Out of these Paralytic scoliosis due to Anterior poliomyelitis is the commonest and constitutes about 20% of all scoliosis.

Nomenclature :

The curves are named after the region affected and the direction of the convexity. A curve in the dorsal region with its convexity to the right is called a Right Dorsal Scoliosis. There may be one, two, three or four curves and they are called single, double, triple pattern or quadruple pattern curves accordingly. A single curve may also be called, a total curve or a 'C' curve and a double curve is sometimes called an 'S' curve.

The curve that develops first is called the primary curve. As the primary curve progresses, secondary or compensatory curves develop as a result of the demands for maintaining the body in the upright position and the effort to keep the head centered over the pelvis.

A scoliosis is said to be fully compensated when the secondary curve

equals the primary curve. If they are not equal then the scoliosis is said to be not compensated or decompensated.

Measurement of curves:

The amount of curvature is expressed by its numerical angular value and Cobb's method of estimation is as follows:–

The end vertebrae of a given curve are identified first. The bottom vertebra is the lowest one whose bottom tilts to the concavity of the curve. The perpendicular from the middle of the superior border of the top end vertebra and the middle of the inferior border of the bottom end vertebra is drawn. The intersecting angle between these two perpendiculars is then measured (Fig. 1)

Pathogenesis:

The spinal column is normally straight and presents no lateral curves. An intrinsic passive equilibrium is established in the normal spine by the spinal ligaments and the inter-vertebral discs. The primary cause of Idiopathic scoliosis is the loss of this equilibrium. In the paralytic scoliosis there is loss of the dynamic or active equilibrium which is provided by the spinal muscles.

In the beginning there is an inclination of one segment of the spine against another. This initial inclinatory phase is more often observed in the paralytic than in the Idiopathic type of scoliosis. In the latter type, the initial feature is more often that of spinal collapse. By this is meant, a sort of telescoping or 'buckling' in which the vertebral bodies undergo a translatory side shift against each other. No such translatory movement is possible under normal conditions, it is prevented by the normal rigidity of the intervertebral disc. So it can be brought about only if there is structural changes of the disc and ligamentous structures preceding the onset of scoliotic deformity. Thus deformity occurs. Farkas has conclusively shown that prior to scoliosis, the disc degenerates and the degenerated disc becomes narrow and soft losing its firm connection with the vertebral bodies enabling them to undergo a translatory and rotatory displacement. The force of gravity acting on these degenerated discs may be the factor which initiates the preliminary lateral deviation.

The lateral deviation is always accompanied by rotation of the vertebral bodies against each other about a longitudinal axis. One cannot occur without the other. When a curved rod is given a second curve in a different plane it cannot do so without twisting itself in its longitudinal axis. The spine is a flexible weight bearing rod curved in the Antero-posterior plane and when a lateral curve is superimposed torsion stresses are set up and the vertebrae rotate. In this rotation the vertebrae turn in one direction, namely away from the greatest weight mass. As this greatest weight and pressure are on the concave side of the

SCOLIOSIS

MEASUREMENT OF CURVE

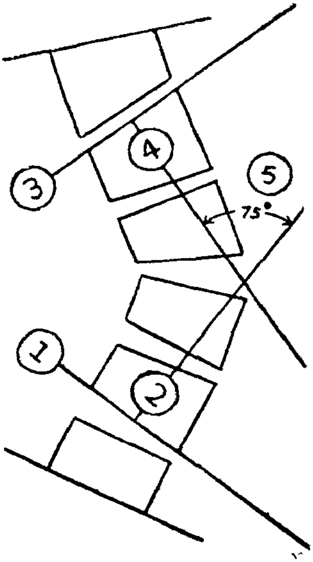
1 BOTTOM VERTEBRA: LOWEST ONE WHOSE BOTTOM TILTS TO CONCAVITY OF CURVE

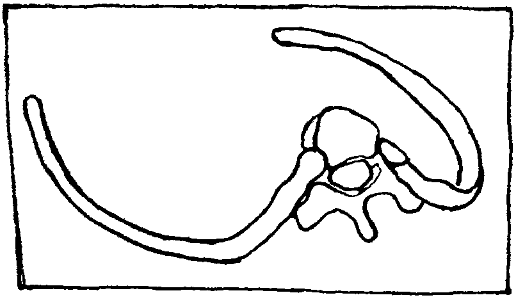
2 ERECT PERPENDICULAR FROM BOTTOM OF BOTTOM VERTEBRA

3 TOP VERTEBRA: HIGHEST ONE WHOSE TOP TILTS TO CONCAVITY OF CURVE

4 DROP PERPENDICULAR FROM TOP OF TOP VERTEBRA

5 MEASURE INTERSECTING ANGLE





THORACIC CAGE IN SCOLIOSIS.

DEFORMATION OF ARCHES AND PEDICLES AND TORSION OF VERTEBRA

lateral curve it follows that the bodies must turn towards the convex side.

There is also another reason why this rotation takes place. In the normal spine certain physiological movements impart inclinatory and rotatory stresses, which keep the spine movable. These movements are the oscillations of the pelvis, the rotation of the thorax and shoulders during the gait, and the respiratory movements of the thorax. If there is any asymmetrical paralysis of the muscles producing these movements, then it will form a contributory factor towards rotation of the vertebra.

As the spine shifts sideways in translatory direction it divides the thorax and abdomen into two asymmetrical halves, the convex side being smaller than the concave side. Because the rib cage is anchored firmly to the thoracic spine through the costovertebral articulations and the pelvis to the sacral spine through the sacro-iliac syndesmosis, this disalignment necessarily results in certain deformations of the thoracic cage and of the pelvis.

Pathology

Changes in the vertebral bodies:

As a result of the lateral deformity the height of the vertebral body is greater on the convex than on the concave side. The vertebra is wedge shaped with the thinnest part of the wedge on the side of the concavity of the curve. The vertebra that is most deformed will be the one at the apex of the curve and as the curve increases the wedging becomes more marked. The vertebrae are also twisted on their vertical axis to form the so called 'lozenge-shaped vertebra'. The torsion of the vertebra manifests itself by a peculiar twist between the upper and lower surfaces of the body. The perpendicular trabeculae within the body assume a spiral course. The transverse processes ascend on the concave side and descend on the convex side.

Changes in the arches and pedicles:

The arches are no longer symmetrical. It is thick and stubby on the concave side and thin and drawn out on the convex side. The spinous processes shift towards the concavity of the curve. The pedicles are shorter and thicker on the concave than on the convex side. (Fig. 2)

Changes in the Intervertebral Discs:

Degenerative change in the discs, is the primary factor which permits scoliosis to develop. They are compressed and squeezed out beyond the edges of the vertebral bodies. They show degenerative changes and replacement by fibrous tissue. The adjoining portions of the vertebrae become sclerotic and there is reactive marginal lipping.

Changes in the Thorax:

The thorax undergoes a twist in a direction opposite to that of the spine so that its horizontal diagonal is altered. Posteriorly, the ribs are sharply angulated on the convex side. They form a sharp prominence and produce the costal hump or the

'razor back" deformity. On the concave side the ribs are drawn out and the thorax is flat. In front the ribs are prominent on the concave and flat on the convex side (Fig. 3)

Changes in the Pelvis:

If the sacrum is included in the scoliosis, a deformation of the pelvis develops similar to that of the thoracic cage. In Lumbo-sacral scoliosis with 5th lumbar vertebra as the apex vertebra, the pelvis is tilted towards the convexity of the curve. The sacrum is compressed and stubby on the concave and longer and thinner on the convex side.

Changes in the soft structures:

Ligaments and muscles adapt themselves to the morphological changes of the spinal column. The anterior longitudinal ligament is thinned out and is displaced toward the concave side. The muscles on the convex side show atrophy and degeneration. Contractures occur on the concave side.

Normal development of internal organs is prevented, and their functional activity seriously impeded. Heart is frequently displaced upwards and forwards. Vital capacity is greatly reduced.

In 0·3% cases of scoliosis paraplegia may develop due to compression on spinal cord. Majority of these cases will be in congenital scoliosis, few in paralytic type.

Types of curves:

The usual types of Scoliosis are:—

(1) **Right Dorsal or Right Thoracic Curve:** This form about 50% of Paralytic scoliosis and 25% of Idiopathic scoliosis. The majority of curves are in the lower dorsal region.

(2) **Combined Right Dorsal and Left Lumbar Curve:** This form about 25% of Paralytic and Idiopathic scoliosis. The apex of the dorsal curve is usually the 6th to the 8th Thoracic vertebrae.

(3) **Lumbar scoliosis:** This is more often to the left than right and form about 30% of Idiopathic scoliosis and some of Paralytic scoliosis. It may end at the lumbo sacral junction or involve the sacrum. Those that involve the sacrum are usually the paralytic variety and results from both pelvi-thoracic and pelvi-femoral muscular imbalance.

(4) **Cervico-dorsal scoliosis:** Unusual in Idiopathic scoliosis. Most of these belong to the congenital type and few to the paralytic type.

Course:

Congenital scoliosis due to developmental abnormalities of vertebrae increases as the vertebra grows and produce gross curvatures, although compensatory curves develop above and below the primary curve if there is space.

Postural curve may remain stationary or may increase slightly if at all. Few of them may become structural curves later on.

All acquired scoliosis progress throughout the period of vertebral growth. Maturity or cessation of bone growth sets a halt to the progress of the curvature. Paralytic scoliosis progress very rapidly and soon get out of control.

Osteoarthritis is a frequent sequelae of scoliosis and develop in middle age.

As the scoliosis progresses nature attempts to bring the deformity to a halt. This attempt is directed towards the recovery of the lost alignment between trunk and pelvis. Disturbance in the alignment of the spine in one place is compensated for in other parts. Neutralising counter or compensatory curves both above and below the affected area, are formed as long as there is space and muscle power for them. A curve beginning at the pelvis or occiput has only one compensatory curve since it is the end of the spine but all other curves have two compensatory curves. The compensatory curves vary in degree and extent with the degree and extent of the primary curve. Compensation is not always complete.

Clinical features:

Deformity is usually the first symptom in young children. Asymmetries of trunk or thorax as high shoulder, high hip, prominent shoulder blades, asymmetry of chest or breast and sunken waistline, often attracts the attention of mother or nurse. Back-ache and fatigue are not uncommon particularly in older children but severe pain is unusual. Stiffness of spine is often noticed in adolescents producing disability for sports and heavy work. Weakness of the back may be felt in more severe cases. At a later stage of life, painful secondary arthritis of spine arises,

Signs:

The deformity is best seen from directly behind the back. The curve can be outlined by marking the spinous processes with ink.

Thoracic curve:

Some or all of the thoracic vertebrae may be involved. There is usually compensatory curves in the opposit direction above and below the primary curve. Convex shoulder is high with winging of the scapula of that side. Ribs on the convex side are prominent, project backwards and their angles are sharp producing the 'razor back'. Intercostal spaces are wide on the convex side. There is a transverse furrow or crease in the lion on the concave side while that of convex side is filled out. Concave shoulder is low and posterior. Chest on concave side of curve is flattened and ribs are crowded.

Lumbar Curve:

There is prominence of iliac crest on concave side with exaggeration of waist line while on the convex side it is usually obliterated. Transevrse processes of convex side are more prominent due to rotation of the bodies of the vertebrae and spinous processes are shifted to the concave side. Pelvis is tilted downwards on convex side. The anterior superior iliac spine on convex side is lower than that of the concave side.

Investigations:

1. Xrays:

(a) Full length standing and lying films are taken and the curvature of the spine noted. Developmental abnormalities as hemivertebrae are

detected if any. Angular value of each curve is measured.

(b) Side bending films-are valuable to determine the extent of flexibility of the curves and spine for correction treatment.

(c) Pelvic tilt test film—to note whether a lumbar curve is primary or secondary. An antero-posterior X-ray is taken with the patient sitting and with an elevation of 3 or 4 inches beneath the buttock on the convex side of the lumbar curve. If the lumbar curve disappears then it is secondary. If it persists it is the primary curve.

2. Electromyography :
Extremely valuable in differentiting paralytic from non-paralytic varieties.

3. Vital capacity :
Severe spinal deformities have a profound effect on lungs and it will be better to estimate the vital capacity if any surgery is to be undertaken.

Prognosis :
depends upon,

1. Age of onset :
All scoliosis tend to progress during the growth of skeleton and the progress is arrested at the time of cessation of bone growth. A scoliosis of earlier onset will increase to severe deformity whereas that of later onset will only be increased little.

2. Progress of the curve :
Prognosis also depends upon the rate of progress of the curve. A rapidly progressive deformity as in congenital and paralytic types soon becomes gross and severe whereas other types tend to increase slowly so that there will be time for treatment and follow up.

3. Time of commencement of treatment :
A flexible curve of recent onset is much more amenable to treatment than a curve of long-standing which has become fixed with Osteo-arthritis and contracture of soft tissues on concave side.

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Cerebral Lesions and Restitution of Movements

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A lot of progress has been made as regards the restitution of movements after peripheral injuries. The two world wars gave great impetus in the repair of these injuries and in rehabilitation. But little work has been done as regards restitution of movements after lesions affecting the central nervous system. However, this is also of great importance and an understanding of the physiological basis of restitution after such lesions will be of help from the point of view of prognosis, treatment and rehabilitation. While the peripheral nerves can be regenerated after lesions of their axons, no appreciable degree of regeneration occurs in man and other primates when a transection is made of the spinal cord. Restitution of function is, then, not due to regrowth or regeneration. It is due to the restoration of normal function by uninjured neuroues after the initial shock like phenomenon has disappeared or by the assumption of compensatory functions by these neuroues. Both these factors may occur together. The effects of most lesions of the central nervous system are maximal to start with and then they subside. While some nerve fibres are affected totally in that they degenerate completely, other fibres may have been merely affected by pressure of the accumulated oedema fluid as a result of the inflammation or by heamorrhage or by factors which resolve later. If these fibres are not subjected to the effects of pressure for any considerable time, the nerve fibres will be left intact. In such cases spontaneous recovery of these nerves can be expected to follow.

Functional recovery is also possible by compensatory mechanisms, assumed by nerves which were not affected at all. An example is anterior poliomyelitis where the paresis is maximal to start with. Each segment of the spinal cord contains anterier horn cells which supply many muscles and each muscle, receives its motor nerves from several spinal segments. In the innervation of muscles, there is divergence as well as convergence. A lesion confined to a few segments will show its effect in several muscles, but each muscle so affected, will be damaged partially only. There are healthy neuroues remaining, which have come other segments, not affected by the disease process. The question that arises then is whether these healthy neuroues can contribute to

the restitution of muscle power. Experimentally it has been shown that a restitution of power can and do occur in these paretic muscles. The recovery of power starts in the course of few weeks but it is completed only after some months. At first, the muscle loses weight but this atrophy is checked later. The recovery is not because the healthy muscle fibres hypertrophy but due to the regaining of the normal size by fibres which had been showing evidence of undergoing atrophy. They regain size and the healthy appearance through re-innervation. This re-innervation is due to the intramuscular branching of intact nerve fibres. The stimulus for this re-innervation acts only over short distances. It does not extend far. Re-innervation will not occur if denervated and normal muscle fibres are clearly separated. It occurs when the intact and degenerating muscle fibres are located close to each other or intermingled in one fascicle. This mechanism of nerve branching (not nerve regeneration) initiated by the degenerating muscle fibres plays an important part in the recovery after the nerve cells in the spinal cord or brain stem have been destroyed. Obviously, the degree of recovery will depend on the number of surviving normal fibres. Perhaps, age is an important factor. The younger the age of the person affected, the greater are the changes of restitution of function by such branching.

Recovery of function can take place after injury to the motor area of the cerebral cortex. The neurons in the vicinity of the injured area account to a large extent for the restitution of function. Apart from this, bilateral representation is probably a not unimportant factor in this recovery. Other cortical areas on the same side may also be responsible. Areas other than the motor area can certainly produce movements. There is a very good evidence for the existence of a second motor area. This is located between the lower end of the Rolandic fissure and the Sylvian fissure. A supplementary motor area has also been found. This is within the longitudinal fissure just anterior to the representation of the foot in the motor cortex. Movements of the limbs can certainly be elicited from many areas of the cortex, other than the classical motor areas.

Recovery from cortical lesions is characterized by the fact that the distal muscles regain function to a lesser degree than proximal muscles. Further, such of these movements of the distal muscles who are restituted appear commonly associated with other muscles. For example, flexion of the leg was combined with flexion of arm or dorsiflexion of the foot and toes. In cases where the recovery of function enables one to flex or extend the fingers, these movements are performed with all the fingers together; flexion or ex-

tension of the individual fingers is impossible. Such a recovery of function may be explained by saying that the extra-Rolandic areas have taken over the function. However, it seems to be that the large part of the recovery of function following partial lesions of the motor area is due to the remaining parts of this area itself. In the cortex, there is overlap of the representation of patterns of movements. Fibres arise from different parts and go to form synaptic contact with anterior horn cells supplying one part of the body. Hence, in cases of injury, only a portion of the fibres to one part or limb will be affected. The restitution of movement will depend on the remaining neurones.

The problem of neuronal plasticity is an interesting one. Whether there is neuronal plasticity in the central nervous system is a debatable part. While the great majority of evidence is against the view that by a process of learning, the function of the neurones can be altered, there are some experiments to the contrary. In case of human poliomyelitis with resultant paralysis, the crossing of flexor and extensor tendons acting on the knee has been done. At first this procedure leads to a reversal of movements. With time, a connective adjustment takes place so that the co-ordination of movements in walking is correct. This is obtained by learning process operating at a higher level. The old pattern persists and may return even after the passage of years, because that is the basic one and the more recently acquired one is only obtained by learning.

This alternation in function, a flexor acting as an extensor, and reorganization through learning, raises the important question whether a re-education programme is not worthwhile in cases with lesions of the central nervous system. Apart from this re-education, therapeutic efforts must be directed toward an increase in the effectiveness of the remaining corticospinal motor system. One can effect this by increasing the responsiveness of the central nervous system by chemical agents which augment neuronal excitability and increase the synaptic transmission; it is also increased by those facilitatory procesess which increase the tension of contractions evoked when a stimulus is applied to the motor cortex.

Among the chemical agents which help are acetylcholine and the group of drugs allied to it. Inhibitors of cholinesterase, of which many potent ones are available for use, also help. The voluntary power and range of movements are increased by these substances in various diseases of the central nervous system.

Facilitation can be brought about by proprioceptive stimuli arising from stretch or tension receptors. Proprioceptive reinforcement of muscles can be obtained by fixing

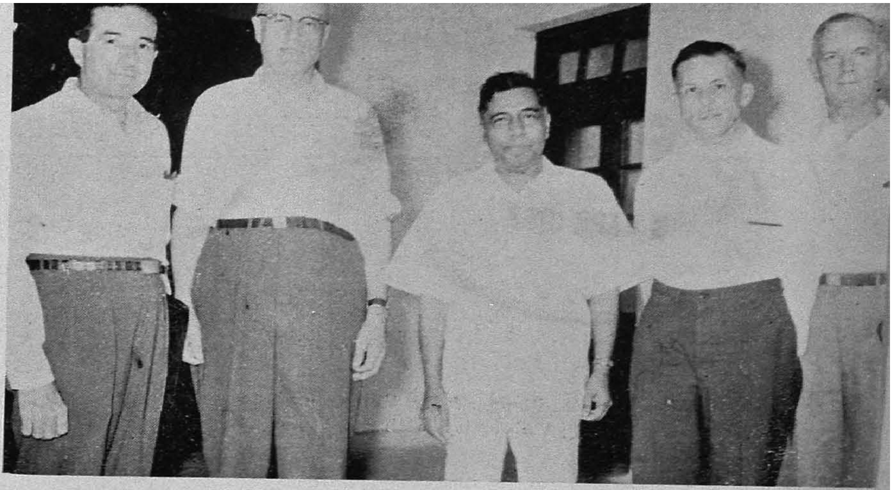
the joint it moves, in certain positions; fixation of one joint may facilitate the responsiveness of muscles moving another joint. Thus reinforcement of the triceps, the flexors of the wrist and the shoulder muscles occurs on fixing the elbow in flexion. Proprioceptive facilitation is useful for muscles moving any joint, proximal or distal.

Another way in which facilitation can be brought about is by emotion. Emotional excitement produces hypothalamic facilitation of the motor cortex. A person with cortical lesion may not be able to smile when asked to do so but may laugh spontaneously at a joke. This hypothalamic effect deserves our attention in the training or re-habilitation progamme.

The older therapeutic procedures emphasized passive movements and electrical stimulation of muscles. These are certainly useful procedures in that atrophy will be delayed and the part will be kept supple; the amount of spasticity may also be reduced. But both procedures are useless as regards reactivation of the central neurones, and the restitution of movements will be much less than what can be achieved by a programme of training in which these facilitatory mechanisms are thought of. New procedures with optimal facilitation, particularly of proprioceptive origin and to a less extent of hypothalamic and chemical origin, will be very useful. These forms of therapy are successful even years after the lesion and onset of paralysis. A denervated muscle retains its structural and other characteristics for quite a long time. The striations of the muscle can be seen even after more than a year has elapsed and functional recovery can be expected. Restitution of function can take place if re-innervation occurs or after a programme of learning processes by which the central nervous system is re-educated. In such programme, the various facilitatory processes must be brought into full play in order to derive the maximum benefit.

Going to church will not make you a saint, any more than going to school make you a scholar.

C. H. Spurgeon.



THEY CAME FROM ABROAD

Top: Members of the Canadian Tuberculosis Specialists' team with the Principal

30 APR 1957

Below: Dr. Helen Taussig with the Principal and members of the Staff

30 APR 1957

Dr. A. Piepper & Dr. Volhagen of the Leipzig University with the Principal.

JAYKUMAR T. M.
Winner of the Ambadi Krishna Menon medal for scoring the highest mark in Pathology.

DR. R. SARASWATHY AMMAL
Winner of the Rugmini Ramakurup medal for the Best Outgoing Woman Student

Roentgen Diagnosis — A Digression

Dr. M. P. JOSEPH, B. A., M. B. B. S., D. M. R.
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Edmund Burke, the great parliamentarian and contemporary of Dr. Johnson, in his memorable opening speech in parliament said, " what shadows we are and what shadows we pursue ". It is not only true of every aspect of human endeavour but very true of the particular branch of medicine which I practice. We deal with shadows and in the interpretation of these shadows, various other factors have to be correlated. It is in this perspective that I have chosen this subject. I do not in the least pretend to be an experienced specialist at all, and I hope my readers will bear with me any shortcomings.

Eversince the discovery of X-Rays, the medical profession has been using this electro-magnetic wave for the benefit of man and during the last six decades this branch of medicine has advanced to such an extent that it has become a 'must' in the practice of medicine. I may go even to the extent that today X-Rays are more 'misused' than 'used' in the diagnosis of disease. Recent publications from the Atomic Energy Commission of Canada and U. S. A. should be taken as a warning and I would appeal to the members of the medical profession to use this potent source of energy, only as and when absolutely felt essential. Indiscriminate use of this ionizing radiation, will definitely result in positive harm, which may not be apparent now, but may manifest itself three generations later; when probably the clamour and curses that will arise from the face of this planet may make us turn in our graves. The common man has got the idea, helped to a certain extent by medical men that the acme of diagnosis is X-Rays. This is definitely a bad feature in the practice of medicine today. Everyday I come across many patients in the outdoor department who come to the hospital with the fixed idea that he or she must be X-Rayed. It is our solemn duty to disseminate knowledge among the people which should dispel this erroneous notion.

Diagnosis by roentgen examination is by no means easy. After all the Radiologist has to interpret shadows and in the interpretation of these shadows he is very likely to err, which should be readily pardoned. Instances are not uncommon when sarcastic criticisms of the findings of the radiologist are made in his absence. For instance when the radiologist reports 'no evidence of an ulcer in the stomach', the Surgeon opens the case and finds a big ulcer in the stomach. He turns to one side and with a smile tells his assistants how wrong the radiologist is. The one pertinent fact the Surgeon forgets is that at the time of radiological examination the ulcer mouth might have been closed either by a mucus plug or by food particle, resulting in non-entry of barium into the ulcer crater and consequent non-visualization of the ulcer. The Radiologist as well as the Surgeon are correct. Factors similar to this which vitiate the radiological findings must be appreciated by the clinician. Very often the clinician never imparts the data of his clinical findings to the radiologist. This handicaps the radiologist in his estimation of the shadows and his conclusions are

often conjectural. If only the clinician sends all his clinical findings and gives the radiologist a tentative diagnosis, the radiologist will be able to help him to a very great extent in arriving at a proper diagnosis, with the result that proper treatment can be instituted at the earliest possible moment. This is one aspect which is woefully lacking in many places. And at the place where I work this is the routine rather than the exception. Probably the clinician is testing the diagnostic acumen of the radiologist or more often the clinician depends upon the radiologist to give him a clue to the diagnosis. To a large extent this modern method of diagnosis has resulted in a fall in the standard of clinical diagnostic ability of the present day student of medicine and the house surgeon, unlike those a decade or two ago. Very often the busy clinician has no time to make a thorough clinical examination and finds an easy way out, i. e., to refer the patient to the radiologist, which takes the patient off his hands for the time being. The patient comes later with the radiological report which is taken always for what it is worth and treatment instituted. These are the two unhealthy habits which are slowly creeping into the practice of modern medicine. X-Rays are there to help the clinician to confirm or otherwise what he has arrived at by proper thorough clinical examination. Or when he is doubtful regarding the diagnosis, every possible means including X-Ray diagnosis should be gone through. Viewed in its proper perspective X-Rays have become a potent weapon in the armamenterium of diagnostic aids.

Coupled with the rapid advances in the field of surgery, Roentgen diagnosis has advanced to such an extent that there is no part in the body which cannot be investigated by this method. Cerebral angiography, arteriography, venography* aortography and angio-cardiography are a few of the recent advances in this field of medicine. No doubt as in all other investigations they have their own limitations and risks.

If best results are to be obtained by means of radio diagnosis, the clinician and the radiologist should discuss the case together and then investigations instituted. A happy blend of these two will be rewarded with a rich harvest of correct diagnosis.

It will be interesting to recapitulate, briefly, the development of Roentgen diagnosis with special reference to the investigation of the alimentary tract and chest. It was on December 28, 1895 that the modest and retiring Wilhelm Konrad Roentgen, Professor of Physics, University of Wursburg, reported his experience with a strange phenomenon that was destined to revolutionize the world. The work was reported in the form of a preliminary paper entitled "on a new kind of Rays" and published in the annals of Physical Medical Society of Wursburg. Within a short time Roentgen's original article was translated into all the important languages of the world and it became the univarsal property of mankind. One may well imagine the astounding effect upon the world of this miracle by which hidden areas within the human body could be made visible to the naked eye.

Flouroscopy so essential a procedure in the roentgenology of the alimentary tract, was first discovered when Roentgen saw the effect of rays generated by the X-Ray tube on a barium platinocyanide screen. In this first paper he wrote. 'If the hand be held between the discharge tube and

the screen, the darker shadow of the bones is seen within the slightly dark shadow image of the hand itself". There then followed a gradual development of modern fluroscopic equipment. The pioneers in the technic of introducing radio opaque substances into the body so that we could visualize radioluscent structures in the body were Haschek and Lindenthal who in 1896 injected chalk into the brachial artery of a cadaver and demonstrated it by X-Rays. They wrote, "should it be possible through technical improvement to radiograph other portions of the body, this would open up a new field in the diagnosis for the healing of the sick". This prophecy has more than fulfilled and today there is no part of the body which we could not demonstrate by X-Rays. Another important step was the discovery that halogen compounds are radio-opaque. The next important event in the history of radiology was the introduction into the stomach and intestines of the guinea pig with lead acesute by Becher. He wrote, "a solution must be employed which can be introduced into the human stomach without causing damage and which is non-transparent for roentgen rays". The pioneer work of Cannon in the early development of roentgenology of the alimentary tract will for ever remain a credit to science. Roux and Balthazard in 1897 described a series of experiments when they used bismuth subnitrate. In 1898 Cannon published the results of his experiments. Holzknect and Jonas in 1909 carried further experiments and showed the importance of fluroscopy and palpatory manipulation. H. Beclere was so impressed by this method that he wrote, 'The introduction into the stomach of a very large quantity of bismuth in a mixture of bread and milk has enabled Roux and Baltbazard in France, Williams and Cannon in America to make interesting researches in the animals, children and adults on the muscular function of the digestive canal. It is to be hoped that clinical medicine will take part in these researches and that in this manner Visceral radiology will some day be enriched by a new chapter". That the hope of Beclere has met with rich fruition is demonstrated by the accuracy which the Roentgen method has achieved and the reliance placed by the clinician upon the objective significances of the information which is obtained.

The modern fluroscope is constructed in such a manner as to give a maximum degree of safety in diagnostic exploration. Various spotfilm devices are now obtainable for graded compression of an isolated area of the alimentary tract with a "switch over" for prompt radiographic exposure of the region under special observation. If in addition to the safety devices constructed within the fluroscope itself, a chair is employed with a lead protective apron in front, if soft lead lined gloves are used and if intermittant exposure is made of as small an image as is consistent with proper visualization of the various portions of the viscus being studied, the procedure of fluroscopy may be considered essentially safe.

At present the question as to whether we should depend on fluoroscopy or upon radiography in the examination of the alimentary tract may be considered obsolete. The combination of both procedures is essential in order to obtain the maximum of detail of a diagnostic nature in the Roentgen examination of the alimentary tract. Both procedures compliment each other. Certainly fluroscopy will give extremely valuable information, regarding the grosser details of structure and Kaleidoscopic changes of physiological behaviour, Many lesions even though

small, will be picked up by the expert on fluroscopic examination alone, if the patient is thoroughly examined through every angle and if manual compression is employed to bring out mucosal relief. For the finer structure of detail the radiograph has its advantages. Maximum safety in diagnosis consists, therefore, in the employment of both procedures in every case. No matter how skilfully the trained gastro-enterologist or radiologist may be, there are obvious advantages in the correlation of both fluroscopy and radiography in the examination of any patient in whom a lesion of the gastro-intestinal tract is suspected.

Finally I wish to stress the importance of clinical back ground of every such case that is studied by Roentgen rays. While the objective Roentgen findings in many cases are of such clear-cut character that their diagnostic significance may be accepted unequivocally, border line cases in which only the interplay of all the factors that can be brought to bear, whether clinical, pathological, or radiologic will enable us to render maximum diagnostic service to our patients.

The Roentgen examination of the thorax has attained a status of greater utility and more frequent use than has Roentgen study of any other portion of the anatomy. Developing gradually over the past four decades with variations in technics and methods of examination, our knowledge of the interpretation of roentgenograms of the chest has become so complete, that examination of the lungs is not considered adequate if it does not include some type of Roentgen examination. Certainly a negative diagnosis of pulmonary disease cannot be propounded without XRay examination. Further more early lesions of the lung, before they are symptom producing, are so readily demonstrated by XRay procedures, that routine study of symptomless individuals in mass surveys is rapidly becoming a feature of public health programmes.

The pathological features which affect the structures of the thoracic cage are multiform ; their number is legion. Practically all the diseases to which man is heir may in one form or another affect the lungs, the bronchi, the pleura or the mediastinum. Whether a disease is congenital, traumatic, inflamatory or neoplastic in origin, evidence of its effects may be observed within the thoracic cage. In addition, the eteological agents of pulmonary diseases are numerous and individual manifestations vary widely.

As a means of disclosing an abnormality within the thoracic cage XRay examination is unsurpassed. Lesions as small as 2 mm diameter are visible, part cularly if they are favourably situated. It is not uncommon to demonstrate a pathological process long before the patient is concious of any symptoms. The distinction between various types of abnormalities presents a far more difficult problem, one which is comparable to that of differentiating various diseases of different origin by the study of gross pathology alone. For example although it is readily possible to demonstrate a cavity within the lung, the determination whether such a cavity is tuberculous, a nontuberculous abscess, a congenital cyst or a carcinomatous necrosis may be exceedingly troublesome and at times impossible.

In general it may be said that a negative diagnosis of diseases of the lung cannot be made without X-Ray examination. It is possible without X-Ray examination to make a positive diagnosis of certain diseases particularly those of the bronchi, and occasionally of the lungs themselves, but

validity of such diagnosis is rarely established without confirmation by X-Ray examination. The presence of abnormal processes may be established in their earliest stages by this procedure, but the exact differentiation of the etiology often requires the use of other methods.

In the study of the thorax an ordered routine of procedure should be followed. Proper Roentgen examination of the chest involves the use of many methods; in no other field of Roentgen diagnosis is an exacting technique more necessary. Roentgen examination particularly fluroscopy, involves some risks since X-Rays always have delitereous effects. Although the amount of radiation needed for proper radiography of the chest is relatively small, frequently repeated examination óver a short period should arouse apprehension as to the limits of radiation exposure which are desirable. In fluroscopy especially in children, such limits should be sharply observed and amount of exposure kept to the smallest possible quantity.

Ideally every patient presenting himself to a physician, regardless of his complaint, should have a fluroscopic examination of his chest, since it is relatively inexpensive, consumes little time and provides rewards far greater than these obtained from routine physical examination It is likely that in the future this procedure will become an established routine. Fluroscopic examination of the chest supplements the routine physical examination and gives information unobtainable in any other way. In large series of cases studied in the X-Ray department of the Medical College Hospital the value of routine fluroscopy of the chest in the discovery of abnormalities is well established. In some respects fluroscopy has advantages over radiography in that patient may be examined in various phases of respiration, before and after cough, and in a great variety of positions.

The character of fluroscopic images is such that fine detail can rarely be seen. Most probably this is the result of the low illumination afforded by limited amounts of radiation which are possible. With the introduction of methods of intensifying the fluroscopic light without increasing the quantity of radiation some of the handicaps may be overcome. Nevertheless, fluroscopy cannot be relied upon for the exclusion of small lesions. Thus a negative result of fluroscopic study does not exclude pulmonary tuberculosis of minimal and even, in some cases, of moderately advanced degree. Negative fluroscopic findings do not exclude moderate degree of scoliosis, nor of diffuse fibrotic lesions. Small tumours, minimal pneumonic consolidation, minimal pnemothorax, and other lesions of smaller size are likewise not always visible in the fluroscopic screen. In the consideration of the value of fluroscopy it should be borne in mind that its usefulness is largely related to the grosser lesions of the thorax.

Radiography of this chest done in 4 or more positions. The routine skiagram is the posteroanterior view. Right oblique, Left oblique and true lateral views are taken as and when required. Stereoscopic pictures are taken when a single skiagram shows a suspicious shadow which is not entirely diagnostic. Tomography or Planigraphy or Laminography (all are the same) is the term employed for body section radiographs. Bronchography is done to differentiate, bronchiectasis, tumours of the bronchi, cysts of the lung, bronchoste-

nosis, pulmonary cavities of any type and bronchial fistulae. By doing pulmonary angiography we can diagnose tumours causing compression or obstruction of the vessels, angiomas or arteriovenous fistulae of the lung. Photofluroscopy is employed in mass radiography. Here the highly intensified image in the screen is photographed in 70 m.m. films.

In the diagnosis of diseases of the heart fluroscopy is an invaluable aid. It gives knowledge about the shape of the heart, which in diagnosis is even more valuable than the size. Its value is greatest in determining the significance of a mitral systolic murmur, adding precision to the diagnosis of conginital anomaly of the heart, helping in the recognition of early mitral disease, aortitis and cardiac aneurysms, detecting the first objective sign of heart failure, namely congestion in the pulmonary vessels, judging the progress during treatment of heart failure by watching the recession or spread of pulmonary congestion during repeated examination, and estimation of progress in relation to the extent of failure and the degree of cardiac enlargement.

Of recent origin and the most fascinating is the use of atomic energy in the field of medicine. This force which scientifically applied produced the worlds greatest man-made catastrophe and historys' most exquisite weapon of mass destruction. That the further application of the same force in minute amounts for the beneficient purpose of investigating life processes and aiding human ills,is somewhat incongruous, certainly unusual and quite startling. For never before in history have the interests of the weakness and those who practice the healing arts been so closely related. This exposive, in conception, manufacture and technical perfection, is the result of the genius of the modern international scientific world; of a group of physical scientists who were unavoidably, because of the irresistible seductiveness of a scientific void, caught in a whirlpool of possibilities relating to nuclear fission. They were drawn inextricably into the turbulent vortex of events culminating in the unbelievable power of the atom bomb. That this is apparent in the writings and discourses of atomic scientists, and of others, an undercurrent of mental disquietitude, a certain uneasiness as to the moral premises, with respect to the part in the development of the weapon, is understandable, even though one may not agree as to its necessity. The bomb representing the ultimate fruition of a series of basic experiments having to do with the greatest force available to man, was inevitable. It is fortunate indeed that the men of medicine do not need to carry this particular burden. This triumph of the physical scientists, this masterpiece of weaponeering of demonstrated efficiency and deadliness is not of medicines' contriving. Hippocrates need not stir uneasily in his shroud in gentle reproach of his favoured crew of earthly desciples. The cloud which arose from the atolls of Bikini, the deserts of Australia and the Siberian wilderness does not dissipate. It hangs like a pall on the minds and councils of men it permeates the sancta of the highty as well as the ecclesiastic cloisters of all religions. The advent of atomic energy has brought to medicine, more than to any other profession, a bewildering array of new problems, brilliant prospects and inescapable responsibilities. While the enlightened physician will recognise his obligations in the highly important sphere of national defence much closer to his professional heart will lie the hopes, the dreams and the boundless horizons associated with the application of the

products of atomic energy to the study of biological processes and the diseases of mankind. Here indeed, are the opportunities. To the scientist in his laboratory, to the clinician, to the diagnostician, to the surgeon, even to the arm-chair-philosopher here is a new and entrancing field for speculation, for investigation and for practical application of a new and formidable tool in the biologic sciences. The opportunities are unbounded to those who will prepare themselves to the basic knowledge required. Isotopes may be created at will, in quantities sufficient to satisfy any reasonable demands. Throughout the world are men and mostly young, who as part of their daily work deal with material emanating thousands of curies of radiation and manipulate machines which project nuclear particles at unheard of velocities. Across the wide world men and women are learning the technique and methodology of tracer substances and are familiarising themselves with the elements and the transmitations created by the atomic pile. All the processes, physical and chemical, may be studied, not only for the purpose of advancing our basic knowledge but - more important - for the exploitation of this basic knowledge in the direction of our lives and the lives of those yet to come. Man was born not to die, but to live, and it may be, once we know a great deal more about him, that he can be made stronger and far more durable.

The human race is at present standing at the parting of the ways. Whether it will turn towards the path leading to complete annihilation of the entire civilization or towards the path leading to peace, prosperity and happiness, only the future can disclose. It depends to a large extent on the sanity of higher world councils. We can justifiably be proved to be called citizens of this nation, which has stood for peace, ably led by the apostle of peace and founded by the father of the nation who laid his life in the altar of non-violence. Let us hope this mild voice coming from a nation who believes in moral might rather than physical strength will prevail in the councils of the world.

Work is an end in itself and not a means. Interest yourself more in your work to find real happiness in life.

Anon.

Mental Stature and Peptic Ulcer

POULOSE UDAYAMPEROOR. IV Year M. B. B. S.

It is still a controversial point about the role of one's mental stature or mental state, in the causation of peptic ulcer. But there are ample proofs to suggest that the stature of one's mind definitely enhances the causation of this dreadful disease.

What is mental stature ?

'It is the state of mind that manifests itself by sensible changes in the body'. It is already proved that unpleasant emotions like anger and anxiety, discouragement and dissatisfaction etc. harmfully overstimulate any organ or muscle or endocrines. Dr. John A Schindler says that "the moment you become angry, the muscles at the outlet of stomach squeeze down so tightly that nothing leaves the stomach, the entire gastric tract becomes spastic, number of blood cells increases, blood pressure rises up to 130—230 mm. of Hg. heart rate up to 180—200.

Let us verify how this emotional upset affects peptic ulcer. Peptic ulcer is the denudation of tissue which occurs in parts of alimentary canal which are bathed by gastric juice. Constant situation is duodenum and stomach, occurs in the lower part of oesophagus also when there is regurgitation.

Aetiology :—

Most important aetiological factors are excessive secretion of gastric juice rich in acid and devitalisation of the mucus membrane

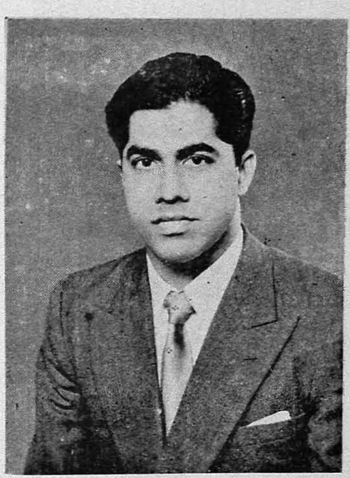
One factor which causes hypersecretion of acid is the psychosomatic factor or the psychic factor, especially when this disease occurs in hypersensitive highly strung individuals. It is commonly believed that people who are alert, tense and have hot kind of temperament are subjected to peptic ulcer. The greater incidence in men is also explained that it is due to the greater strain of work and its attendant worries hey are undergoing than the other sex.

If concentration of acid is raised high enough for a long time, it is capable of eroding normal mucus membrane. Hyperchlorhydria is found in 75% ulcers. This is attributed to an increase in vagal stimulation which supports well with the current theories about the influence of psyche on stomach. How vagus causes excess secretion, the exact mechanism it not explained.

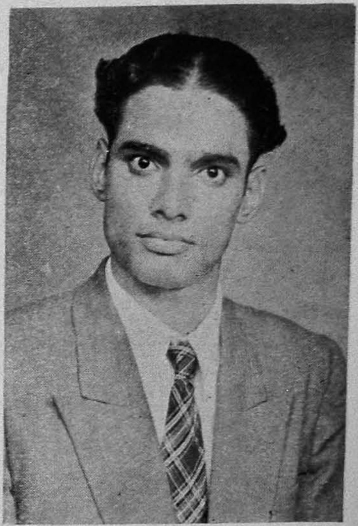
Dr. Illingworth remarks that "If peptic ulcer is regarded as a stress disease, its increasing freqency during the past fifty years can be attributed very convincingly to the increasing wear and tear of life in the age of rush and hurry and to the increasing multitude of worries and frustrations which encompass human mind in 20th century."

Our present knowledge readily accepts the view that psychic state, can influence gastric functions. Occurence of nausea and anorexia, in students just before their examination, vomiting as a response to disgusting sights etc. can be taken as a supporting proof. Main proofs are forwarded by Wolf and Wolff, two physiologists in 1943, who proved that profound and prolonged emotional disturbances led to the marked and persistent increase in gastric

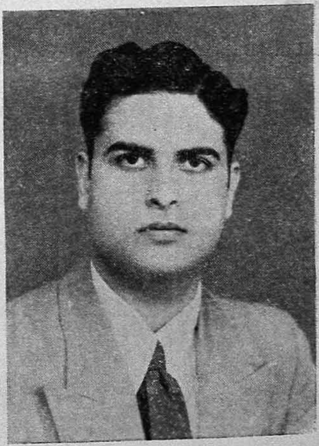
SCHOLARS ALL



DR. E. A. THOMAS
Winner Dr ELAYADATHU ACHUTHA MENON
Gold medal for Obstetrics and Gynaecology



DR. CHANDRASEKHAR K. P.
Winner Kunji Amma Gold medal for pediatrics



DR. K. V. KRISHNA DAS
Winner of the Dr. Ambadi Krishna Menon Medal for Midwifery, Dr. Ramakrishna Pillai Gold medal and Sri Padmanabha Swamy Gold medal for the best outgoing Student.

DR. MANOHAR KINI
Winner Parikshit Raja of Cochin Gold medal (Medicine)

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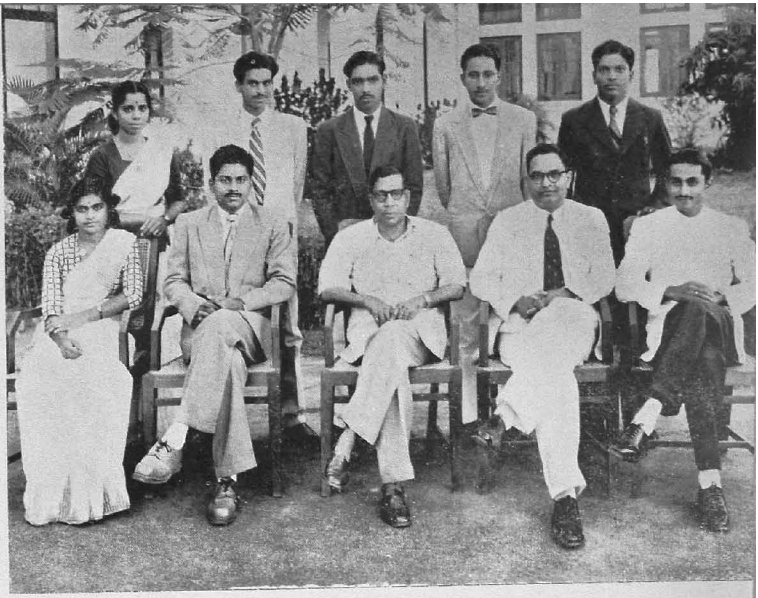
Children in the Nursery School

Students in the mobile Dispensary



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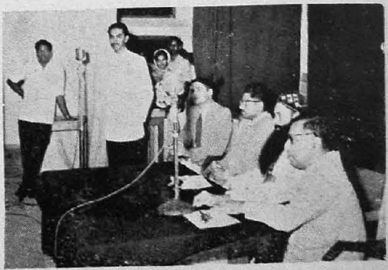
SRI. B. V. K. MENON I. A. S.
Inaugurating the College Association



The Secretary of the College Association speaking to the new Graduates.

It is already proved that in a state of mental excitement or tension, gastric acidity is increased. Miller, Bergenin and Hawk determined the gastric secretory curve in response to a test meal on a normal individual (a) while he was in a state of mental upset (b) a week later under the best mental conditions. Comparison of the two revealed that during the anxiety or upset period acidity is markedly elevated and gastric emptying is relieved.

Barron and his associate reported an increase in the amplitude of stomach contractions as measured kymographically in patients who are about to undergo operations.

Role of Post. Pituitary during upset conditions

The post. lobe or the neural lobe receives many nerve fibres all non myelinated from the hypothalamus. The secretory activity of nervous division is wholly under nervous control. Lesions in hypothalamus affects the secretory activity of the gland. 'Mental upset' acts on hypothalamus through cortex, hypothalamus stimulates posterior pituitary and secretions increased. Beaumont says that pituitirin, the hormone of post. pituitary stimulates the vagns centre in the interbrain resulting in consequent increased vagal activity. The posterior lobe of pituitary in animals produces a gastrotoxin which can cause lesions in the acid bearing areas of stomach, but not yet discovered in human beings. Post pituitary extract stimulates smooth muscle widely throughout the body and this action is a direct one.

Emotion has action even on the Antidiuretic hormone (A. D. H.) produced from post pituitary which is strictly under the control of supra optic nucleus of hypothalamus. It is found that the anti-diurteic effect in exercise results not wholly by muscular activity but the effect is due to the emotional committant of the exercise. A similar antidiuretic effect is readily produced by fear, anger or nocuous stimulation.

Anterior Pituitary during emotional conditions

Recent work of Gray and his colleagues in 1951 found out that A. C. T. H. which is produced in anterior pituitary when given in large doses daily for a week causes great increase in the secretion of acid and pepsin and may cause any ulcer present to be activated even up to the point of haemorrhage or perforation. Stress has a definite role in the production of A.C.T.H.

Role of Histamine :—

Babkin suggested the possibility of vagal impulses which cause the liberation of histamine in gastric mucosa and through its vasodilator action and stimulating effect upon parietal cells, conditions favourable to ulcer production are provided namely high gastric acidity, pouring acid into stomach and through defective blood supply to the mucous membrane resulting in devitalisation.

Considering all the above hypothesis it is sure that the mental stature has definite role in the causation of peptic ulcer even though it cannot be fully explained. But it is almost proved experimentally that the sensitivity of vasomotor responses varies considerably in different persons, and the vascular responses of the gastric mucosa will also show individual variations, that is gastric response varies in degree according to the temparament of the individual.

Mittlemann and Wolf found wide range of personality types which however shared

a common and characteristic reaction pattern which consisted of intense anxiety, in security, resentment, guilt and frustration. They desc ribe one of their patient's personality sketch as

" he was dissatisfied with his work, he used to wake several times at night, his sexual relations were unsatisfactory, he was obviously worried about it, he was always anxious about his work, later he developed sinking sensations in the stomach and he lost his appetite due to his continued disappointment, finally ulcer developed. "

It is Rokintasky (1842) and William Brintom (1857) who are credited with having originated the neurogenic theory of peptic ulcer.

Anyway one thing is sure, the state of one's mind plays a definite role in the aetiology of peptic ulcer even though this theory has not received the quantitative research attention it merits.

So beware, do not allow your mind to be subjected to unpleasant emotions for a long time.

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Those who develop tuberculous Cervical lymphadenitis that heals before adolescence seldom develop Pulmonary Tuberculosis.

MURPHAN

Mite Typhus

D. RADHAMMA, Final Year M. B. B. S.

Mite Typhus or Scrub Typhus is a zootic fever of the typhus group caused by Rickettsia tsutsugamushi (R. orientalis) which is transmitted to man from lower vertebrates chiefly rats and voles by larval mites.

The disease has been known in Japan since 1878 and was described originally as Shima-mushi or island insect disease and also as Japanese flood-fever. The natives of the affected regions believed the disease to be caused by the bite of a minute insect, the red mite (orkamushi) or the disease-mite (tsutsugamushi). Active research on Tsutsugamushi fever dates from the work of Kitasato in 1893 but from 1909 onwards Schuffner and Watch in Sumatra, Fletcher, Lesslar, Leuthwaite and Savoor at Kuala sumpus in Malaya, and many others demonstrated the existence of similar 'pseudo-typhus' fevers in these areas and the Lualalunpur workers eventually showed the identity of these dissases with Japanese tsutsugamushi.

Credit for successful demonstration of the Rickettsial cause of tsutsugamushi fever is usually given to Nagayo and his colleagues who showed the presence of minute diplococci and rods on smears from human tissues. Before the second world war, most of the facts concerned in the epidemiology of scrub Thyhus had been assembled chiefly by the painstaking work of Japanese observers on Tsutsugmushi fever. The disease had been thus shown to be transmitted to man by trombiculoid mites whose infecting bite produced the eschar or primary lesion. The life history of this mite has been studied and it was known that the Rickettsial infection was capable of passing transovorially. In addition to the infection of the Trombiculoid mites, a reservoir of inapparent Rickettsial infection was known to exist in the rodent population of the areas geographically affected, and in particular rats and field mice in whose ears the six-legged trombiculoid larval mites lodge and feed. Under experimental condition in mice and cotton rats Rickettsia can persist for more than a year after infection and similar prolonged persistence of the Rickettsia has been proved in man.

The predominent trombiculoid concerned is Scrub typhus in Burma, India, Ceylon, New Guinea and elsewhere was shown to be T. de Piensis related to T. Akamuzhi of Japan and Formosa.

The incidence of the disease is either sporadic or epidemic depending on the number of persons exposed to infection. The mortality varies according to the circumstances, being high in debilitated persons.

Pathology: Apart from the frequent presence of the local primary lesion called the eschar, with the associated lymphadenitis and lymphangitis, the essential lesion of the disease is the mechanical damage to the vessels causing obstruction of the lumen of the arteriole and so of the blood supply of the tissue. The Rickettsiae multiply chiefly

in the endothelial cells of the small blood vessels. These cells become swollen and proliferated. The Rickettsiae and their toxins penetrate the walls of the vessels and cause small nodular infiltrations of monounclear and polynuclear cells in the perivascular tissues. These infiltrations are called Typhus nodules. Thrombotic lesions such as pulmonary infarction or femoral thrombosis and peticheal hemorrhages involving the serous membranes and skin have been encountered.

Regarding diagnosis, unless the disease is known to occur in the locality and the patient is known to have been exposed to risk of infection, suspicion is not likely to be aroused till the rash appears except in cases in which the eschar is detected. Differentiation from the other Typhus fevers often remains impossible till the characteristic Porteus OXK reaction becomes positive in the second or third week of the disease.

Methods of laboratory diagnosis :

(a) Isolation of organism :— R. tsutsugamushi can be recovered from the blood of patients during the first 10 days of illness most easily by innoculation of mice intraperitonially or by innoculation of rabbits in the anterior chamber of the eye. Yolk sac innoculation has also proved successful and so also is the usual guineapig method using the intraperitonial route.

(b) Serological studies :—*(1) The Wiel-Felix Reaction.* Agglutinins are demonstrated by using the OxK or Kingsburry strain obtained first by Fletcher and Lesslar. It is agglutinated more often and to a higher titre than Ox 19 by normal sera and in order to prove that the reaction indicates infection a titre in excess of 1:200 using the ordinary Drayer technique or else a four fold increase in titre must be obtained. No rise in agglutinins for the strains of Proteus Ox 19 and Ox 2 is found in scrub Typhus. The peak in OxK agglutinins occurs in early convalescence and a rise in titre usually begins in the second week of the disease.

(2) Specific Rickettsial Tests. Specific compliment fixation has been obtained with convalescent sera using antigen prepared from mouse lungs or from yolk sacs.

Case Report :

A female patient aged 39 years was admitted in the Medical College Hospital for fever of seven days duration. Fever was associated with malaise, headache, shivering rigor and aching pain all over the body. She was treated with sulpha drug and penicillin, but the temperature rose to 104.5° on the third day accompanied by the appearance of small nodular slightly tender swellings on both sides of the neck and in the right inguinal region (lymphadenitis). On the 4th day, night blood revealed microfilaria. Sixth day blood was sent for serological examination-Widal reaction-negative and no Enteric group of organisms were isolated in culture. On the seventh day of fever patient got admitted in the Medical College Hospital, Trivandrum. On examination the patient looked very ill, face was flushed, conjunctiva congested, tongue was coated tonsils were congested, posterior cervical and submandibular lymph glands on both sides and right superficial inguinal lymph glands were palpable and tender. Her appetite was poor and she was constipated. Temperature 104.5%. Pulse 130 per minute. B. P. 120/82. Heart and lungs were

normal. Liver and spleen were not palpable. Other systems were normal. *Course of illness in Hospital* :—Patient was carefully nursed and was given penicillin. Haematological examination - lucocytosis, with a relative increase in the polymorphs. Night blood-no microfilaria. At night the patient was restless and complained of pruritis. Next day i. e. on the 8th day of fever macular rashes were seen on the skin of abdomen, face and arms. Lymph glands were palpable as before, and temperature was 104.5°F. Penicillin was stopped. Blood was sent for culture and agglutination reaction and patient was given synthomycetine and other necessary treatments. Blood-Widal negative, culture negative for enteric group of organisms.

Agglutination for OxK - 1/800 positive. Ox19 1/200 positive Ox2 negative. Motion for culture - no enteric group of organism- Urine-B. coli isolated from cultures. A diagnosis of Mite typhus was made and treatment by synthomycetine was continued. Temperature touched normal on the 11th day of fever. After a week patient was discharged.

Follow up :

Next day she was admitted with a temperature of 100.5°F and Pulse 100 per minute. Patient complained of tender cord like thickening in the left upper arm. No lymphglands were palpable. No other physical signs could be detected. Blood was sent for Widal and Weil Felix Reaction. Widal Negative, Weil Felix OXK 1/1600 dilution positive OX 19 and OX2 negative. *Urine for culture:*-No pathogenic organisms were isolated. Patient was put on Hetrazan and temperature, dropped to normal and she was discharged after a week.

In this case the appearance of maculopapular rash and lymphgland enlargement were of great diagnostic assistance. A positive Weil Felix reaction in the second week clinched the diagnosis. The rise in the titre in OXK agglutinins found in early convalescence confirmed the case to be Mite Typhus. The differential diagnosis is largely a matter of geography. Malaria, typhoid, paratyphoid, dinger measles, broncho-pneumonia may require differentiation in this part of the world.

A word about Prophylaxis :

Attempts at prophylaxis have been made along two lines, first by attempts at preventing the transmission of the disease by mite and by rat control, and socondly by attempts to induce an effective artificial immunsiation. In addition to these measures avoidance of probably infected areas is an obvious measure. Finally attempts at individual chemoprophylaxis have been made.

I am greatly indebted to Professor T. K. Raman in whose unit the case was admitted and who permitted me to report this case. My indebtedness is due to Drs. Vincent D. Bayliss and K. Narayana Pai, Assistant Professors of Medicine, who rendered valuable help to study the case and prepare this paper.

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Enteric Pneumatosis

Report of a Case and Review

C B. C. WARRIER B. Sc., Final Year M. B. B. S.

Govindan, Male aged 35 was admitted into the surgical ward of the Medical College Hospital on 21-10-56 with complaints of pain in the abdomen and vomiting immediately after taking food.

Patient gave a *history* of pain in the abdomen for the last 6 years, a typical history of peptic ulcer with pain coming on 3 hours after meals, acid eructation and belching and abdominal distension after taking food. After 1½ years he developed vomiting. Vomiting used to relieve the pain. After a further lapse of 6 months i e. 2 years after the oneset of pain he went to the Quilon General Hospital where he had an operation. A reference to Quilon Hospital-Records show that at operation no ulcer was found and an appendicectomy alone was done. He was discharged from that hospital after 21 days but returned back to that hospital with an infected wound and all stomach complaints continuing even after operation. Infection was brought under control and he was again discharged. Vomiting and pain in the abdomen continued and he carried on for another 4 years. All symptoms aggrevated for the last 2 years.

The *complaints* on admission were the following. Pain starting in the centre of the abdomen going up and down. Pain is of a continuous nature. Not relieved by food but only aggrevated. No interval free of pain between meals. Distension of the abdomen on taking food. Belching and acid eructation. For the last two weeks the vomiting is continuous. Vomitted after every feed and he developed food fear. Vomiting gives relief to the pain. Appetite good. Bowels constipated.

Examination on admission revealed an ill-nourished man. Anaemic. A right upper paramedian incisional scar seen on the abdominal wall.

Abdomen not distended. Moving freely with repriation. There were visible peristalsis from left to right. Duodenal area was tender on palpation· Succussion splash was elicited. Liver and spleen were not palpable with no other palpable massess. B. P. was 96/70. No other abnormality detected in any other system. A Radiogram was taken with Barium Meal. The report showed "Colon hightly distended with gas, stomach curvature appear normal. D. C. does not form. Stomach lying in the pelvis.

3 hours – 100% stasis in stomach

6 hours – 100% stasis.

Duodenal obstruction."

The patient was given sufficient preoperative treatment from the day of admission in the form of intravenous drips of saline and Hydroproteins. Aspiration by Ryles' tube, stomach wash, soap and water enema, Injections of liver extract Mist. Belladona Carminative etc were given.

Patient operated on 29-10-1956.

Operation.

With usual premedication and anaesthesia the abdomen was opened by a right

upper paramedian incision excising the previous scar. No evidence of previous Gastro-jejunostomy was seen. Appendix already removed. Small glands were seen all around the caecum. Large multi-lobulated honey combed masses were seen over the antimesenteric border of about 3 feet of the mid ileum (Fig.) This length of the small intestine was resected and end to end anastamosis made. Stomach was very much dilated with cicatrising duodenal ulcer. Posterior Gastro-jejunostomy was done. Abdomen was closed in layers with drainage. Condition was diagniosed as *Chronic Peptic Ulcer with Enteric Pneumatosis.*

After operation the patient was discharged on the 16th November. Came back after 2 months with oedema of the feet and palpitation. Patient was hospitalised and treated with iron, Liver extract and Hydroproteins. The oedema subsided and he was discharged.

REVIEW

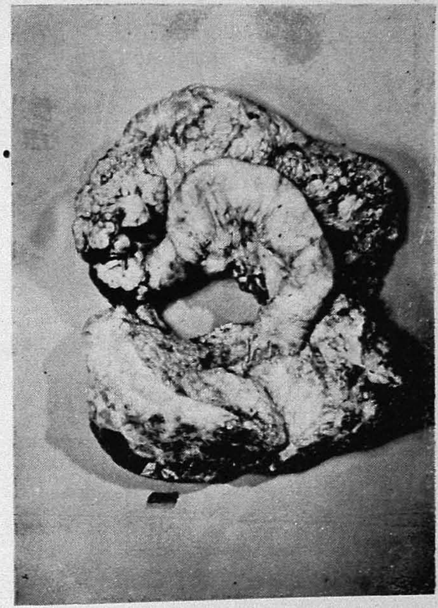
Enteric Pneumatosis :

This is a very rare condition characterised by the development of multiple gas containing cysts in the subserous coats of the intestine. Usually they lie in relation to the ileum but may extent to whole of small intestine or even the coecum or ascending colon. They are arranged in clusters. The cysts rarely exceed the size of a pigeon's egg. Early the cyst may be sessile but later may become pedunculated. The cyst wall is thin and translucent and is composed of delicate connective tissue lined by endothelium. Sometimes the wall is thickened and infiltrated by lymphocytes mononuclear cells and giant cells of the foreign body type. The gas which is under pressure is usually composed of Nitrogen, with smaller proportions of Oxygen and Carbondioxde and occasionally with other gases.

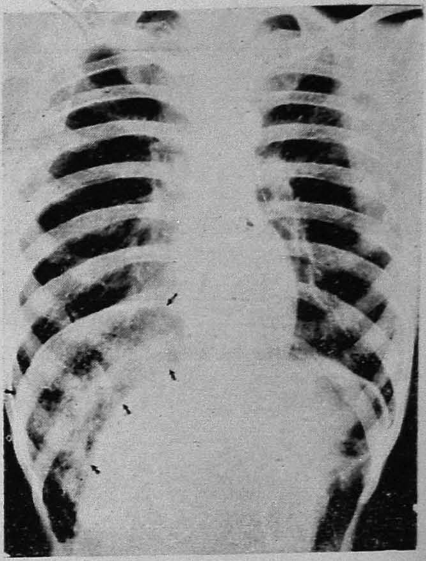
Gas cysts are rare in man and are usually found by chance on exploration of the abdomen for gastric or duodenal ulcer or often other diseases. Occasionally cysts of similar nature occur in vaginal wall in pregnancy.

Enteric pneumatosis gives rise to no symptoms and is of no clinical importance but its puzzling aetiology has attracted much speculation, and several ingenious theories have been, advanced. It has been suggested that the gas is a product of aerogenic organisms, but this is not supported by bacteriological evidence. Many authorities have suggested that the origin of the cysts is mechanical and that the gas of internal origin is forced through minute fissures in the mucous membrane as a result of vomiting or irrigular peristaltic action, but against this view is the absence of intestinal flora with in the cysts.

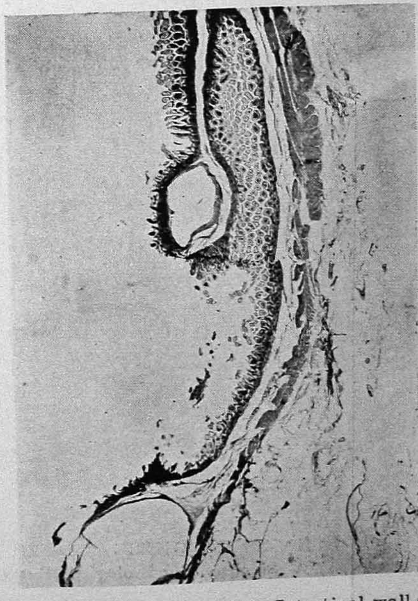
Mason in a valuable paper has supported the view of chemical origin. He affirms that the cysts are dilated lymph or chyliferous channels and that the gas is derived from chyle by chemical interaction with acid products of intestinal fermentation. In support of this view he point out firstly that chyle contains large quantities of carbon-dioxide in the form of alkaline carbonates, and secondly that gas cysts occur most often in conditions associated with increased intestinal acidity. Presumably carbondioxide set free in this manner is subsequently replaced by Nitrogen diffused from blood, just as oxygen in

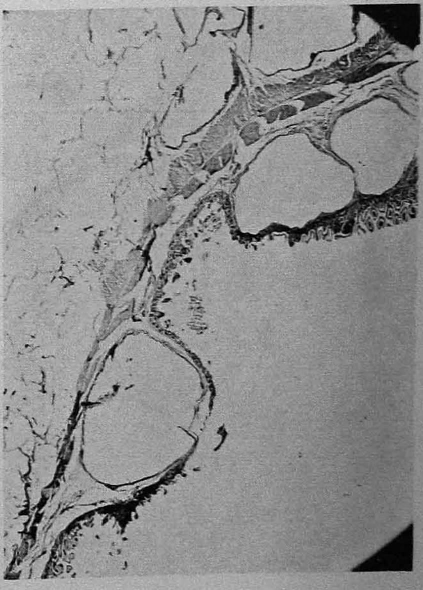


Specimen of the portion of Intestine Resected at operation showing gas filled bulli in the intestinal wall in the antimesenteric border.



Xray showing the diffuse cotton wool like patches in the area of the Liver caused by the gas filled wall of the Intestine.





Microscope section of the Intestinal wall showing Gas cysts in the coats of the Small Intestine.

Warrier — Enteric Pneumatosis P. 31 - 33

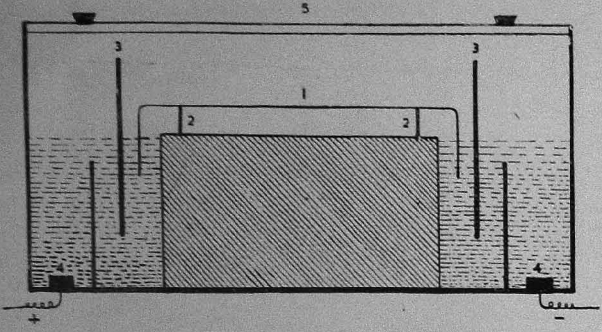


FIG. I — CABINET.

1. PAPER STRIP.
2. BAKELITE FRAME
3. BAFFLE
4. ELECTRODE
5. LID

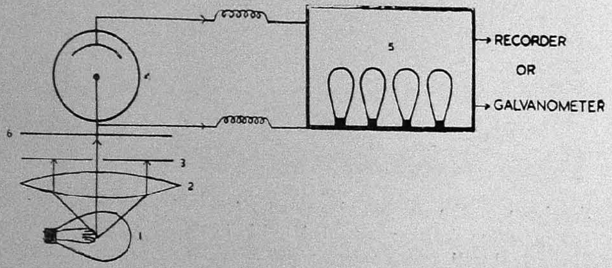
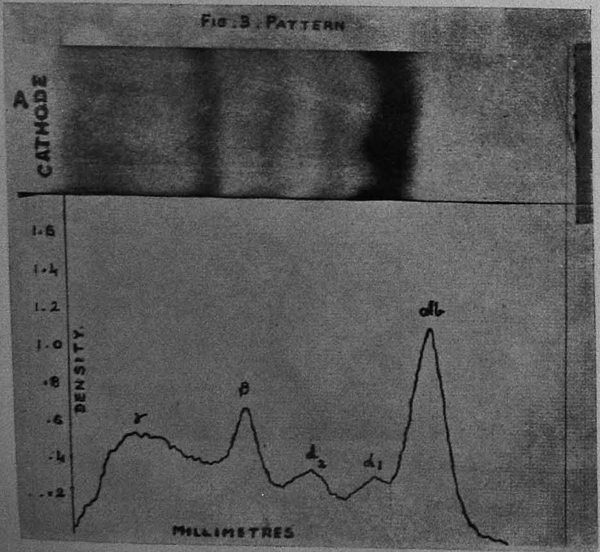


FIG. 2. DENSITOMETER.

1. LAMP
2. CONDENSER
3. SLIT
4. PHOTOCELL
5. AMPLIFIER
6. PAPER STRIP



THAMPI VERGHESE
A Novel tool for Biological Research

troduced into the pleural cavity may be replaced.

It is interesting to observe that enteric pneumatosis is common in swine fed on dairy refuse and it is thought that the large quantities of lactic acid consumed provide the basis for the gas production.

(ILLING WORTH Surgical Pathology 6th Edition 1941 Pp. 504—505).

Thomas Hodgkin (1798-1866) was curator to the Guy's Hospital, London. He described 7 cases of Hodgkin's disease. He applied for the office of physician at Guy's Hospital but failed to get the post.

* * * *

On September 27, 1881. Auton Wolfler of Vienna first performed Gastro Jejunostomy the operation being suggested by Nicoladoni, his assistant.

A Novel Tool for Biological Research

THAMPI VERGHESE, B. Sc., Final Year M. B. B. S.

It was Quinke who first showed that particles migrate in an electric field by virtue of the charge possessed by them. This phenomenon was termed cataphoresis or electrophoresis. Later Helmholtz made some important advances regarding the electrokinetics of particular suspensions. Helmholtz's papers were published in the year 1879. Mention may be made of other workers, namely Smoluchowski, Gouy and Debye and Huckel, who added much to the theoretical aspects of electrokinetics.

This type of electrical migration of particles has been observed in gases also. Electrostatic dust removers are based on this principle. In 1937 Tiselius perfected his cell for the moving boundary method of study of serum proteins. Later elaborate apparatus were constructed and now paper leectrophoresis has become a more or less standard technique for the electrochemical analysis of various chemicals and biological fluids.

Methods for studying electrokinetics fall chiefly into two groups :—

(1) Microscopic. (2) Moving boundary.

The former is resorted to when the study of migration characteristic of larger particles as colloidal suspensions, blood corpuscles and bacteria, are undertaken. Moving boundary method is specially valuable in the study of biologic mixtures in their natural state. Separation and study of homogenisity of substances in microquantities is possible by this technique.

The broad principles of the method can be described as follows. The substance under study is supported in a suitable buffer solution and electrodes are applied a few inches apart. Particles, molecules, or ions aggregate around the appropriate electrodes, when the current flow has taken place for some time.

The supporting medium can be either a glass tube containing buffer or a filter paper strip soaked in the buffer.

For appreciation of the separated fractions various methods have been resorted to.

(1) Depending on the difference in optical densities (invisible and visible regions of spectrum).

(2) By staining the substance during the run by suitable vital dyes which will not alter their migration characters.

(3) By staining the paper on which migration has been achieved and observing the colored bands corresponding to the components.

(4) Incorporating isotope tracers into the constituents and later analysing the pattern by a G. M. counter.

A method which is now universally employed is by running the substance on a filter paper strip, under a voltage gradient and then staining out the fractions by suitable dye stuffs. To comment on the exact details of the experiment the following can be considered as typical.

In this method the paper strip is supported horizontally (horizontal strip technique). The cabinet (Fig. 1.) consists of a lucite chamber with electrode compartments on either end. The electrodes are made of some electrically inactive metal like platinum, to prevent polarization. Baffles are provided for avoiding seepage of the products of electrolysis into the paper.

Filter paper strips of Whatman No. 1. are cut in sizes 30,5 × 2·5 cm and are marked off from one end by a lead pencil line at a distance of about 10 cm. This is the line of origin. Any number of papers can be placed for one run according to the capacity of the cell. The electrode chambers are filled with barbital buffer of pH 8.6 μ .05. The cell is then placed in a refrigerator and temperature is maintained at 4°c. This temperature is chosen because water has maximum density at 4°c and convection currents are minimum when density is maximum.

Papers are soaked in the same buffer after inscribing with a lead pencil, some point of intelligence for future identification. The papers are stretched taut with extreme care on a bakelite frame and placed in the cell. The cell is closed by a glass plate and current is switched on. The line of origin should be near the cathode. Generally a D. C. voltage of 250 is employed at 1 milli ampere for each paper strip. After about 10 minute's equilibration remove the rack and apply the substance soaked in small strips of filter paper to the line of origin. Each strip takes a load of about 0.01 ml – 0.02 ml of serum.

Replace the rack in the cell and allow about 8–10 hours for the electrophoresis to be complete. In this time albumin (the fastest component in serum proteins) will move about 9–10 cms from the origin.

Papers are taken out and dried while on the rack for 10 minutes at 100°c. This step remarkably increases their dye-binding capacity.

The papers are then subjected to the process of staining in a solution of amido-black, and the excess of the dye is washed off from the background, dried and kept ready for scanning.

Densitometry (Scanning)

The paper strip is passed underneath a a sensitive photo-electric cell (Fig. 2.) and a luminous slit of parallel rays is projected on the paper from below. The light intensity gradations are appreciated by the cell and the electric pulses so obtained are amplified by electron tubes and translated into needle excursions in a galvanometer. The contrast can be increased by interposing suitable filters. Readings of the galvanometer are plotted for every m.m. step of the paper and a curve is drawn. A crest in the curve will indicate a particular fraction. The area enclosed under the crest is evaluated by a planimeter and is directly proportional to the quantity of the substance present.

Alternatively an apparatus called integral scanner, can be used, which will carry out all these in one step automatically, and areas are given by a process of integration; thus relieving much strain and expenditure of time on the part of the worker. The data can later be subjected to a statistical analysis.

Much work has been done with regard to the understanding of pathological pro-

cesses, by noting their reflections on the serum protein components. Usually five components are made out namely (Fig. 3.) $\gamma, \beta, \alpha_{I}, \alpha_{II}$, globulins and albumin in the order of their increasing mobility. The same fractionation by chemical means are often imperfect and inaccurate.

Interpretations have been made not only with regard to the quantity variations but also of mobility differences. It is ascertained that mobility in electric field is a function of the isoelectric pH of the protein. Each protein and its specie is characterised by a definite isoelectric pH. In otherwords proteins of the same species cross the line of zero migration at the same pH. Genetic relations can thus be assessed on grounds of electrophoretic mobility. This may prove valuable in criminology.

Patterns have been successfully reproduced after extensive investigations in cases of toxamias of pregnancy, Hodgkin's disease, Lymphogranuloma venereum, nephritis, carcinoid of small intestine, anemias and malnutrition. Clear cut interpretations are often difficult due to individual variations.

The method in a slightly modified form (continuous electrophoresis) has been applied to concentrate antibody fractions, viruses and fractionation of snake venom. It is interesting to note that when protein patterns of animal sera are elaborated by this technique, in the order of their evolutionary status, an increasing complexity of patterns is seen.

The potentialities of the method cannot be over-estimated. It forms a singular tool for investigations in the hands of the biologist. By examination in the regions of spectrum other than the visible, a number of substances can easily be estimated. It gives a method of analysis for the chemist and pays a tribute to the physicist.

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I express my thanks to Dr. M. Thangavelu, M. D., Professor of Pathology, who has kindly helped me in the preparation of this article.

Chromatography

P. GOPALA KURUP, B. Sc. Final Year M. B. B. S.

Schonbein, studying the analysis of dyes observed in 1860 that in filter paper strip water travels faster than the solute in solution. He also showed that in a mixture of components one component travels faster than the others. His student Goppelsroeder applied this principle to the separation of plant pigments, alkaloids, fats, etc. and called it "Kapillaranalyse". This was the starting point of modern Paper Chromatography.

Martin and Synge of Cambridge studied this principle in greater detail. Their first attempt was to find an inert support which will hold one of the solvents while the other solvent can be passed over. Experiments were conducted with Silicagel. The ideal conditions were studied for this type of chromatogram where two liquid phases were used i. e. inert support should not absorb the solvent, the presence of solute should not influence its distribution of the two liquid phases. It was realised that ideal conditions were difficult and tedious to be achieved. It was Martin and others who tried successfully the use of filter paper. The method consisted in applying a small drop of the solution containing the substances to be separated to a strip of filter paper. The developing solvent (usually a water containing organic solvent) flows past the spot by capillary action.

In spite of the hundreds of studies with this procedure no major improvement was made but the impetus given by Martin encouraged so many to undertake a thorough study "that there has seldom been a technical development so thoroughly described and so adequately presented".

There are different methods of paper chromatography. Descending, ascending of both, two dimensional technique and circular chromatography. The essential principle is the same in all i. e. the movement of fluid by capillary action. I have adopted two methods for my mork, the dascending two dimensional and ascending two dimensional chromatography. Two dimensional technique was preferred because of the maximum resolution it gives to the complex mixtures. It is based on the principle of successive development of the chromatogram with two different solvents in two directions at right angles to each other.

Study of Amino Acids in Blood:

Technique used was descending two dimensional chromatrography. I have attempted to give here a short account of the method used in our laboratory for the study of amino acids in human blood. The apparatus used is the Shandon's Two Way Chromatograph Chamber. Whatman No. 1 filter paper 24"×24" was used throughout. The broad principle of the method is as follows :—

1. Collect blood with a sterile and perfectly dry syringe (to reduce haemolysis to a minimum)
2. Centrifuge the blood for half an hour at 3000 RPH to get the serum.

3. *Deproteinisation:* Acetone is added to the serum in the ratio 2 : 1 and after shaking well to mix the twot ogether, it is allowed to stand for two hours. The flask is stoppered well to prévent evaporation of acetone.

4. The precipitated protein is filtered off, and from the filtrate acetone is evaporated off at room temperature. The residue is taken up with a quantity of water equal in volume to the original volume of serum taken.

5. The solution in water is desalted with electrolytic desalting apparatus.

6. Application of the sample. 200μl of the sample (equivalent to 200μl of serum) in applied to one corner of the paper with a standard haemoglobin pippete. The point of application of the sample is at about three inches away from each side of paper.

7. *First run of solvet.* The solvents used in our laboratory for the first run are :—

   Phenol saturated with water in the ratio 3 : 1

   Phenol : Ethanol : water in the ratio 3 : 1 : 1

A strong solution of potassium cyanide (5 cc) in placed in a beaker at the bottom of the chromatograph chamber. This helps to prevent decomposition of phenol.

8. When the phenol has run down almost to the lower edge of the paper, the excess of the solvent is removed with a pippete from the chamber and the papers dried by aerating the chamber using a fan.

9 *Second run.* When the papers are quite dry and the chamber is free of the smell of phenol, the paper is set at right angles to the original run. The solvents now used are.

   Butanol : acetic acid : water in the ratio 250 : 60 : 250 or

   Butanol : ethanol : acetic acid : water in the ratio 250 : 400 : 60: 250

When the solvents are being passed over the paper two things are found to be important. (1) The chamber should be perfectly air tight. This helps to prevent evaporation of the volatile solvents which may adversely affect their ratio of concentration in the solvent mixture. (2) The atmospheric conditions should be kept at as constant level as possible so that undue temperature change may not affect the resolution of the components in the sample.

10. When the second run is complete the papers are dried by aerating the chamber with a fan until the chamber is free of the smell of butanol.

11. *Detection of amino acids on paper:* The dried chromatogram is sprayed with a solution of Ninhydrin (0.25% in 95% acetone) and the spots are developed by keeping the paper at temperature of 95°C for half to one hour.

12. *Evalution of spots:* This is done by noting the relative position of the various spots and comparing them with the standard prepared by running pure known amino acids under identical conditions of the experiments which helps to identify the amino acids. Yet certain amino acid spots were difficult to be identified by this method of Rf comparison because of the slight changes in the conditions of the experiment.

13. *Quantitative assay:* This is done by scanning the papers with the densitometer. The light intensity gradations are read off in the galvanomoter scale and are plotted on a millimeter graph paper. The area so plotted is compared to the standard obtained by plotting Ninhydrin-sprayed known quantities of the solutions of the same amino acids in different concentration.

I have not yet been able to study the quantitative aspects of the problem. My work was confind to the qualitative part of the problem, finding out the different amino acids which can be spotted in chromatograms developed with 60, 120, 200 and 300/μl quantities of serum.

Observations: In the study of amino acids and normal human sera, I have been able to observe the following :—

1. "Slight" haemolysis of blood does not alter qualitative nature of the chromatogram even when the quantity of serum used is 300/μl.

2. Desalting of the sample prior to its application on the paper gives better resolution of certain amino acids and also better staining with Ninhydrin.

3. The relative concentration of the components in the solvent should be maintained constant as otherwise it is difficult to reproduce the same type of chromatogram from a given sample. The phenol, ethanol, water solvent should be prepared fresh and the chamber should have an atmosphere of HCN to prevent decomposition of phenol. The butanol solvent when passed over the paper should have an aliquot of the water saturated layer at the bottom of the chamber.

4. With 24"×24" paper when 60μl of the sample is developed about 8 amino acids could be detected which occupy positions identical to valine, leucine, glycine, tirosine, serine, glutamic acid, threonine and aspartic acid. With increasing quantities of the solvent, we have been able to reproduce successfully 13 amino acid spots in the chromatogram. We have not been able to identify all the amino acid spots developed with 300μl serum because of the lack of pure amino acid samples. For the sake of standardisation we have fixed the quality of serum to be used on 24"×24" paper to be 200μl. With normal human serum it gives 11 to 12 amino acid spots on the chromatogram.

We have made attempts of detecting any variation in the amino patterns of blood in the common diseases prevalent here. We have studied the amino acid pattern in eclampsia, malnutrion, anaemia, etc. but it is too early to venture any opinion about our finding without a quantitative study of the same.

Study of carbohydrates :

Chromatography of carbohydrates was attempted using the descending two dimensional technique. It was found that separation of sugars can be easily achieved by chromatography. The complex polysacharides should be hydrolysed to simple sugars.

The solvents used in this laboratory for the separation of sugars are water saturated Phenol and Butanol : Ac. acid : water. 20μl of the solution containing 50 mg of each of the component sugar was applied as in the chromatography of amino acids. Pure samples of glucose, mannose, lactose, arabinose, rhamnose, xylose were used to know the extent of resolution. It was found that with the above two solvents, separation of mixtures containing these simple sugars is very satisfactory.

Detection of the sugars :

0.1 cc of a saturated aqueous solution of silver nitrate is diluted with 2 cc of acetone. To the mixture is added water in drops, shaking till the precipitated silver nitrate is redissolved. The dried chromatogram is dipped into this solution and dried. The paper is sprayed with 0.5 N Na OH in aqueous ethanol. The reducing sugars give back spots.

Study of the Products of Hydrolysis of Tissues by Chromatography :

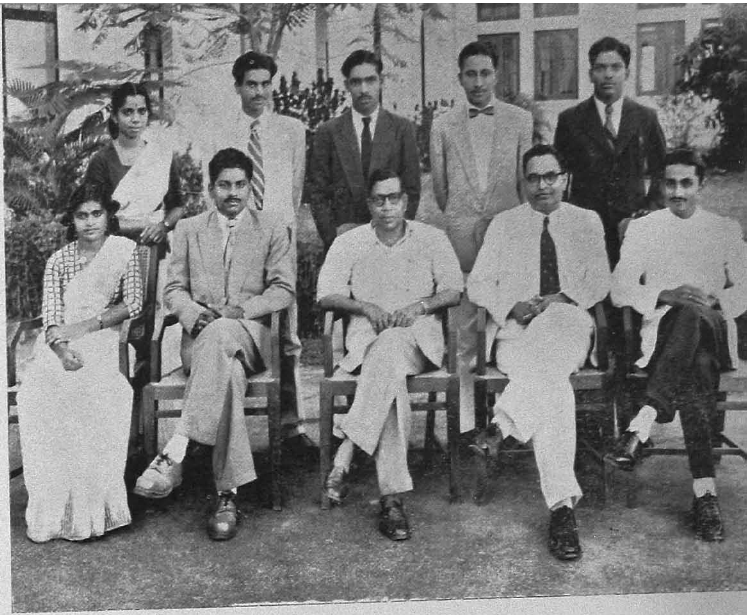
For the study of normal tissues rats were first used. Various organs like liver, muscles, heart, spleen kidney and lungs were hydrolysed with 2N H_2SO_4 at 100° for 24 hours. The excess of sulphuric acid is removed with Ba $(OH)_2$ and the filtrate is desalted and amino acids spotted.

When the technique of hydrolysis was found satisfactory certain tumours were taken up for study. It has been possible to separate amino acids, and simple sugars in the tumours. Successful reproduction of identical patterns for amino acids and sugars was possible in chorion epithelioma. But a lot of variation was observed in certain other tumours.

Chromatography is a very extensive field for research in biological work, as well as in the purely chemical analysis. Many a paper has been published of its use in the study of amino acids, amines, proteins, carbohydrates, fats, organic and inorganic substances. Many scientists have come to regard chromatography as an effective and reliable method in all micro analytical studies. It has taken the scientist nearer to a better appreciation of the intricacies of nature. Its value consists in its simplicity, reliability, its perfection and very wide range of its usefulness.

There is this difference between happiness and wisdom ; he that thinks himself the happiest man is really so ; but he that thinks himself the wisest is usually the greatest fool.

BACON



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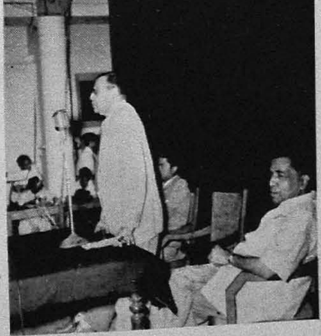

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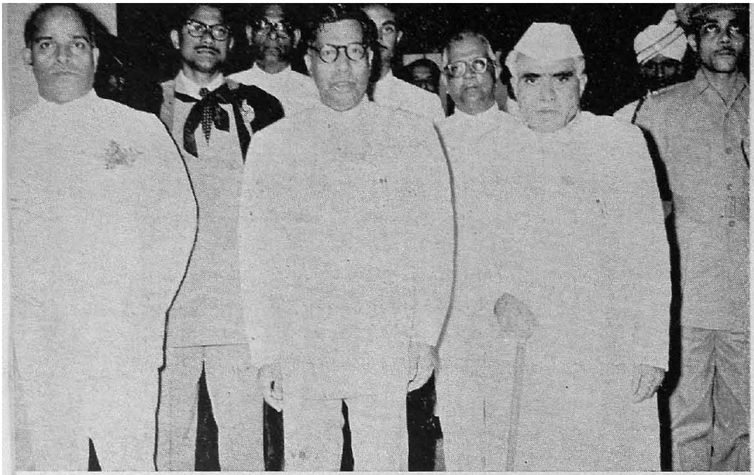

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The Impacted Wisdom

DR. A. M. CLEMENT. L. R. C. P. S; L. R. F. P. S; L. D S. R. C. S.

Definition

This term presupposes a condition in which the normal development of WISDOM is impeded by impact.

In olden times men of learning combined the language of Art and Science to describe things about Men and Matter. They expounded a combination of Moral and Material precepts for the benefit of their followers.

Wisdom would be described as the resultant of interaction between Knowledge and Experience, having a line of action different in direction, but equal in force to the power of both.

The conditions that would impede the normal growth of wisdom would be environment and circumstance. Where the environment is good the circumstance may be poor, where the seed is good the soil may be poor.

Social History and Philosophy

Galen et al observed that women had less number of teeth than men, and what they did not have was Wisdom. This was also in keeping with their findings that women had a smaller brain, although the number of convolutions made up for this lose and increased women's unpredictable logic and intuitions.

Skin and Brain are derived from the same primordial tissue, the Ectoderm. What is lost in brain is gained in skin. When wisdom decreases beauty increases. Yet we would prefer beauty seeing it enjoys a striking force far superior to the delayed complexes produced as a result of adverse social impacts. The wisdom so produced is specific to its kind but it is allergic to others. The lesson-Keep your wisdom to yourself, others do not like it. This wisdom dawns on you any time between 15 to 50 years, for some early, for others late.

To maintain the beauty and proportion of the human face, nature has to reduce the frame work of the face. It would not do to have a small face and a large skull. So the skull and its cavity along with its contents are reduced. This takes place during the formative periods and are predetermined by the participating Genes and controlled by the given environments. Some individuals adapt rapidly others slowly and still others not at all. The teeth being already preformed and calcified are incapable of modification and a stage is reached when there are too many teeth for a given face. Overcrowding protrusion and obtrusion result. Nature then resorts to uneruption or to impaction. Impaction in itself is not pathological, but infection during attempts at restitution or readjustments may lead to adverse conditions.

Aetiology

In the embryo and in the young the posterior teeth lie on their sides facing forwards. At predetermined periods they rear themselves on their bases and come into position. If the jaw bones are small they are forced to impact against teeth or

bone and reactions due to developmental errors follow. Thus there come into being Impacted Wisdoms. These are always in the lower jaw because there are teeth in front and the Ascending Ramus behind. There are no impacted wisdoms in the upper jaw because the maxillary bone is free posteriorly, and there is no bone behind to cause impaction.

Signs

The erupting molar will be seen to be in a different position in relation to the teeth anterior to it and also to its pair on the opposite side. The mucous membrane above the cutting tooth would be inflamed though not infected.

Symptoms

Inability to open the mouth, a feeling as though the jaw is ankylosed, sore throat, malaise, and sometimes fever. The spasm of the jaw muscles may be due to reflex rigidity or it may be due to an inflammatory spread. The malaise and fever may not be due to infection but the result of systemic reaction produced by the resorption of bone and other anabolic changes within and without the mandible.

X-Ray Appearance and Diagnosis

Tooth germs, Unerupted teeth, Dentigerous Cysts, Radicular Cysts, Rarefying Osteitis and Osteomyelities all show more or less the same kind of X–Ray shadow, and is not of much value ; more so because of unavoidable superimposition of shadows and other technical artifacts.

A differential diagnosis can more easily be made by the signs and symptoms. Surgeons depend more on physical signs and other direct aids while the physicians have to trust on deductions from symptoms and tests which often applies only to mice and monkeys.

Focal Sepsis, Prognosis and Treatment

Should at any time an unerupted or an impacting molar be discovered accidently in an X-Ray or any other examination there is no fear of it becoming an area of Septic Focus because this condition being in the Medulla, in an area of good blood supply is cut off from the exterior by cortices of bone and is uninfected ; nor is there any residual infection. Similarly when well defined areas of rarefaction are seen at the roots of filled teeth or teeth that have been subjected to some stimuli or strain, the reactive changes so produced do not indicate a septic focus which would later induce "Focal Sepsis" producing Arthritis, Rheumatism, Nephritis, Diabetes, or other systemic diseases including Mental Diseases as some physicians would like you to believe. I have no doubt they had excellent results after removal of such foci. A "Thalam" on the vertex could have also produced equally good results. I have found this treatment popular with my patients. They use it for all swellings from glands of the neck, to piles and hernia.

However — Reactive changes around Impacted Wisdoms are not pathological even though accompanied by inflammation because these changes are the result of growth and adjustments, while Systemic or Organic diseases are due to pyogenic infections, toxic intoxications or metabolic imbalance.

Treatment is symptomatic so long as the molars are erupting, or even if it shows

signs of impaction. Nothing indicates operative treatment not even an incision, for fear of superadded infection from the mouth ; Often the mouth cannot be opened and it is foul. Nature has arranged to have the oral cavity closed and rested. In due time the wisdom cuts through bone and mucous membrane. Warm mouth washes, mild sedatives diaphoretics and rest should be given. A counter irritant and antiseptic like Lugol's Iodine with glycerine may be applied locally to improve circulation and prevent infection. Lime juice is rich in Vit C. and is a good alkaline diuretic helpful for fevers, providing energy from its sugar, and healing properties from its vitamin.

Very often the tooth accommodates itself in a satisfactory position and gives no further trouble ; at other times it may make several repeated attempts at wide intervals and then assume a natural position. Sometimes however it is caught up in such a stage that it is prone to trauma and liable to infection from stagnant areas of decomposing food and collection of growing bacteria. When this occurs surgical interference is indicated. If an infected erupting wisdom is not removed chronic sinuses form, opening either inside about the First Molar region, or outside on the face. Chronic lymphatic adenitis of the submandibular and cervical glands may develop along with granulating ulcers of the skin which would closely resemble tubercular glands and skin lesions.

Extraction of the 3rd molars should not be attempted by the General Practitioner. The Surgical removal of these molars should as far as possible be left to the Specialist. Special Forceps and Elevators are used and the operations are done under Block Anaesthesia. Bone in and around the tooth may have to be gouged and chiselled off by special electrically driven instruments and the tooth split with wedges before removal. The usual pre-operative surgical preparations are carried out and sedatives given an hour before operation. A general Anaesthesia is however not given for the removal of impacted molars for fear of inhalation pneumonia, protracted operation, and the impossibility of positioning an unconcious and unco-operating patient.

Post-operatively a light sterile gauze pack is left which is removed daily and the socket washed out with a weak antiseptic lotion for a week, after which the cavity may be allowed to fill up from below.

Never had any woman so large a mouth and never had any patient opened her mouth as wide as the stout lady did in the dental chair.

Dentist to the lady. " That's far enough, I am staying outside ".

The Inventor of Chloroform
or
James Simpson "The Wise Wean"

C. MUKUNDAN MENON First Year M. B. B. S.

"From all the blackness and horror of the two world wars, one thing will always stand out like a shinning beacon, namely, the splendid way in which the sufferings of thousands of our sick and wounded soldiers were relieved and their wounds healed. What in former times would have been miracles have been performed as a matter of daily occurance. The most terrible injuries have been restored; broken limbs mended; shattered nerves built up; most wonderful of all serious operations have been carried out; legs and arms amputated, without pain." Think of the thousands of lives from which agony has been spared! who was the man who has thus beaten the awful ogre pain?

The credit goes to a little handful of men but one man stands out above the rest as being the first to discover and use the pain annulling power of chloroform.

James Simpson was born to a humble baker in a small Scottish Village during the former half of the nineteenth century. At school he was known as the "Wise Wean," and he was such a jolly all-round boy that his school-fellows looked up to him as their leader and constant companion. Roaming over the hills, fields and caves near his home, attending his father's shop and driving round the countryside decinering bread at the farms and cottages, James also trained himself to study as easily in a room of noisy children as in the quiet of his bedroom. He spent the intervals of waiting for customers in reading, writing or drawing.

On leaving the school, he joined the University of Edinburgh. The keenness and enthusiasm of two doctors with whom he lived made James want to become a doctor too. He attended to the lectures of the most famous medical men of the day and assisted the village doctor in visiting and dispensing until he found himself a fully qualified doctor at the age of eighteen. Before long he took his doctor's degree at the University. After a tour on the continent Simpson settled at Edinburgh and worked as a physician.

Many of the doctors of that day were ignorant, hard-hearted men who thought little of anything beyond the money they could get. James Simpson believed that to be a doctor was the noblest work in the world. People from different parts of Europe crowded to him to be cured. His wonderful skill and courage brought cheer and healing wherever he went. People began to look upon him as a sort of magician at the wave of whose hand pain and disease would vanish.

James was horrified at the terrible sufferings of the people who came to the hospitals for treatment. No discoveries had been made to prevent the pain and sufferings of men and women who had to

undergo operations in those days. Like a criminal condemned to death, people at times died from fear of the awful pain awaiting them. Simpson thought it his duty to prevent this awful suffering.

In 1800, Sir Humphry Davi had discovered that by inhaling nitrous oxide gas toothache and other pains could be relieved. In 1821, William Morton an American dentist used ether for tooth-extraction and then introduced it for surgical purposes.

James Simpson, hearing about these discoveries spent long hours during day and night testing upon himself the effect of numerous drugs, He with one or two of his friends, sat down to inhale the substances brought from numerous chemists. He undertook such a dangerous task only to bring relief and help to suffering people,

In 1847, a chemist sent Dr. Simpson a packet containing a drug that had not been discovered very long. As it did not look very promising Simpson put it away among some rubbish. But after a few days when he and his two friends were sitting to their risky work, it came to his mind that it might be worth trying this drug, after all. A hunt among a lot of waste paper revealed the bottle and the inhalers commenced work. First of all they became very happy and excited and then suddenly there was dead silence. They had all fallen under the table unconscious! Simpson was the first to come to himself and his instant thought was that it was far, far better than ether. This drug was Chloroform discovered or rather invented by Dr. James Simpson in 1847.

Simpson, at once, began to use chloroform on his patients. He wrote a paper telling others about his wonderful discovery of which tens of thousands of copies were sold.

Like Galileo and other Scientists Simpson also had to face criticism. Some fellows jealous of Simpson, said that pain was sent by God and that it was against the will of God to do away with it. But Simpson knew what a terrible thing pain is. He knew that men who were brave unto death in facing the enemy on the battle-field would tremble before the surgeon's knife and he set himself to kill this monster Pain.

In spite of his great fame Dr. James Simpson went into the slums and visited poor people just as he had done before. Once when he was very tired, a note came telling him that a poor fisherman's wife was very ill Instantly, he went to see her and spent three hours in devoting his wonderful skill to save her life.

The long journeys, weary nights spent at the bed side of patients and exposure to all sorts of weather, at last, had the effects upon the famous doctor's health and he passed away after great suffering relieved by his own chloroform. His dead body was buried by the Scottish people at Edinburgh itself in spite of the desire of the people of England to bury his dead body in Westminister Abbey as an honoured dead—"a philanthropist whose love encircled the world, a discoverer who sought and found for suffering humanity in its sore need a fare taste of the peace of heaven, and a devoted disciple of the only true physician, Jesus Christ."

Our Weapons against Malaria *

DR. E. J. PAMPANA, Chief of the Malaria Section, WHO

From the days of Cleopatra's mosquito net to DDT, malaria has managed to breach through men's defences. Now it has set him another problem—for which, however, the World Health Organisation proposes a new strategy of attack.

Three hundred million cases and three million deaths was the yearly toll which malaria was estimated to take in the world before present control methods were used.

Most people now know that malaria is an infection transmitted by certain species of mosquito, known as anopheles. Today anyone living for some time in a territory where there is a risk of contracting malaria can probably escape it by taking an adequate weekly dose of one of the anti-malarial drugs which have been in use since the last war (amodiaquine, chloroquine, proguanil, pyrimethamine).

If living quarters are screened so much the better ; if not, it will be necessary to sleep under a mosquito net and to limit exposure to the bite of the insect as far as possible when outside the mosquito net. It would be unwise, for instance, to spend a considerable part of the night at the bridge table in a house where mosquitoes have free entry.

Action of this kind to protect ourselves against malaria is like boiling or filtering our personal water supply to make it safe. But, even if we do so, this does not relieve the public authorities of their responsibility for protecting water supplies.

In a similar way, governments today are undertaking the control of malaria over vast regions—a thing quite unheard of a dozen or so years ago.

What has produced this miracle ? The history of the battle against malaria is one of a long series of efforts, hopes and disappointments.

The ancient Romans already realized that there was some connection between marshes, mosquitoes and fevers. They made what we might perhaps call the first attempts at preventive medicine by introducing mosquito nets and drainage.

The mosquito net, already in use in ancient Egypt, was very probably invented less as a protection against fevers than against the troublesome insects which spoilt the beauty of women's faces. If, as Horace tells us, Cleopatra slept under a mosquito net, there is reason to believe that it was not just to protect herself against malaria.

The draining of marshes, however, may have been intended to serve sanitary and agricultural purposes. The engineer Vitruvius, contemporary of Augustus, who may be considered a forerunner of the modern sanitary engineer, maintained that "heavy and pestilential vapours" rose from undrained marshes.

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* Reproduction from WHO Special Malaria Eradication News Letter.

Although he built canals for the drainage of swamps (and reduced the number of mosquitoes) he did not solve the problem of malaria, for the anopheles of the Roman campagna lay their eggs not only in stagnant water, but also in the slowly moving water of canals and ditches.

Vitruvius should have been born in the United States of America some centuries later, for the principal anopheles of that country, *anopheles quadrimaculatus*, does breed only in stagnant water. If, on the other hand, Vitruvius had been born in Manila, he would never have thought that drainage could protect against fever, for in the Philippines the vector lays its eggs only in running water.

At the end of the last century, quinine began to be produced on a large scale and great hopes were raised by this drug, since it was known that a daily dose protected against fevers, even if it did not prevent infection.

Today, we have much more effective drugs—such as those mentioned earlier. By using these, malaria can undoubtedly be wiped out among small groups. But how could these products be administered weekly, or even once a fortnight, to millions and millions of people? It would be a task beyond the powers of most health administrations to enforce such a discipline.

When it was proved in 1898 that malaria is transmitted only by anopheles, it seemed that a way had been found to control the disease. Even if it were not possible to suppress the anopheline breeding-places by drainage and filling (both very expensive measures) it should be feasible to spread larvicidal substances on their surfaces.

This was done between the two world wars—the period of oiling, or using "Paris green". Crude oil was poured on breeding places every 10 to 15 days, or they were treated with a mixture of road dust and 1 p.c. "Paris Green" In this way all anopheles larvae were killed, and, provided that the operation was efficiently carried out, malaria could be overcome.

Unfortunately, however, malaria is pre-eminently a rural disease : it is a disease of villages and hamlets. It is for this very reason that malaria is important to all—even to countries where it does not exist—because it prevents the cultivation of fertile land and thus reduces the production of food supplies in a world which is short of them.

When antilarval measures are used it is obvious that the larger the population to be protected the less will be the cost per head. Such measures may be an economic proposition for a locality with 30,000 inhabitants, but they will be extremely expensive for a community of 100 persons. In fact, it was found that large-scale larval control measures could not be economically applied in rural areas.

Recently, the myxomatosis virus appeared in France (and elsewhere) and it spread so quickly that almost all rabbits were destroyed. Although this was not done by human agency, it is an example of a biological method of controlling a species. Similar methods have been employed by man in the campaigns against anopheles, by distributing large numbers of a small fish of American origin (*Gambusia*), which is a voracious eater of mosquito larvae, to the breeding places of mosquitoes in Europe, Africa, Asia and the Philippines.

Although these fish multiply rapidly, the result hoped for was not achieved, except in the Istrian Peninsula where anopheles were able to breed only in a few ponds of a special kind (*lokvas*) where *gambusiae* could feed on them freely. Such favourable circumstances were not often found elsewhere.

Larvicides and *gambusiae* were intended to destroy the vector in the larval stage. in water. As early as 1927, however, the League of Nations Malaria Commission emphasized the importance of destroying adult mosquitoes in houses where they are directly responsible for spreading malaria, since man is usually bitten during the night by anopheles.

The spraying of pyrethrum or "flitting", as it was sometimes called, then began and it gave very good results in South Africa (1931), in India, and in the Netherlands. This spraying, however, needs to be repeated at least once a week and is, therefore, not practical as a large-scale public health measure.

During the last war, the Swiss scientist and Nobel prize winner, Paul Muller, discovered that dichloro-diphenyl-trichloroethane (DDT) was a very effective insecticide which killed insects by simple contact. Morever—and this is a great advantage—when it is sprayed on walls it remains deadly for weeks and months to insects which come into contact with it for only a few moments.

Therefore, by spraying the inside walls of houses with one of the residual insecticides—not only DDT, but benzene hexachloride (BHC), chlordane or dieldrin—a country can be protected at a uniform *per capita* cost; whether the inhabitants are many or few or whether they live in towns or in very small communities. This cost is rather low. In South East Asia it is about 11 US cents per person per year ; in the Western Pacific 17 cents, and in the Americas about 45 cents. (In English currency about 10d, 1s 4d and 3s 2d.)

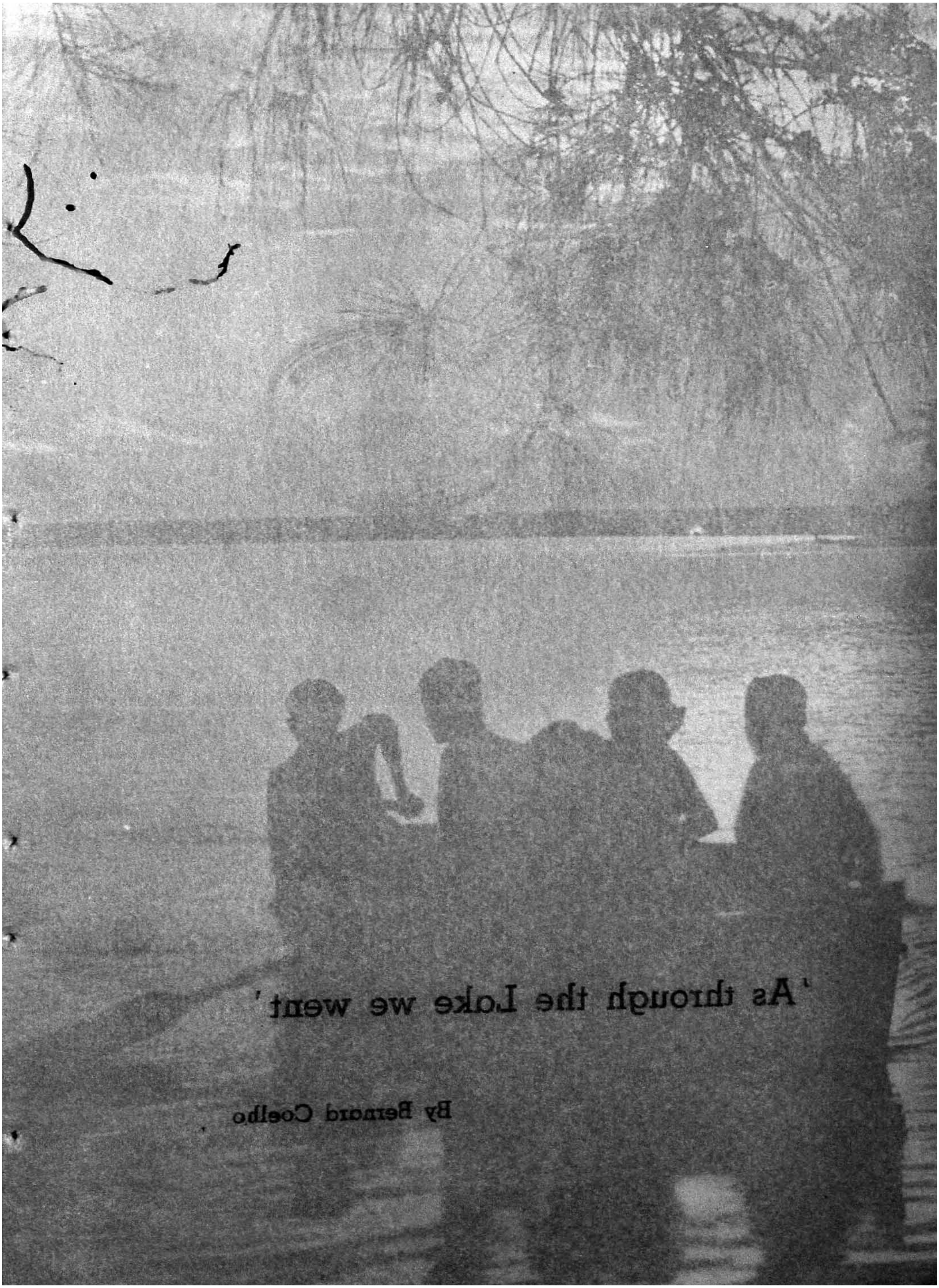
In this way, a method of preventing rural malaria was at last found. Since these insecticides were discovered, the governments of countries where malaria is rife, as well as interested international organizations, have devoted considerable effort to large-scale antimalaria campaigns, designed to control the disease throughout the affected areas.

In many countries, where the disease had previously gone unchecked, it was found that malaria control was economically feasible and infinitely worth while. In others, such as Italy, where until recently methods like drainage, larval control, distribution of quinine, screening of houses and land reclamation were used, this one single method was substituted and found to be more economical and effective than all the others put together.

However, a new problem has arisen involving a new threat : some of the malaria-carrying anopheles are developing resistance to the new insecticides.

It appears that such resistance takes some years to develop, but it also seems that, once it is established to any one of the four chemicals mentioned above, resistance to the others may develop within a few months. This has already happened in Greece.

Fortunately, most people suffering from

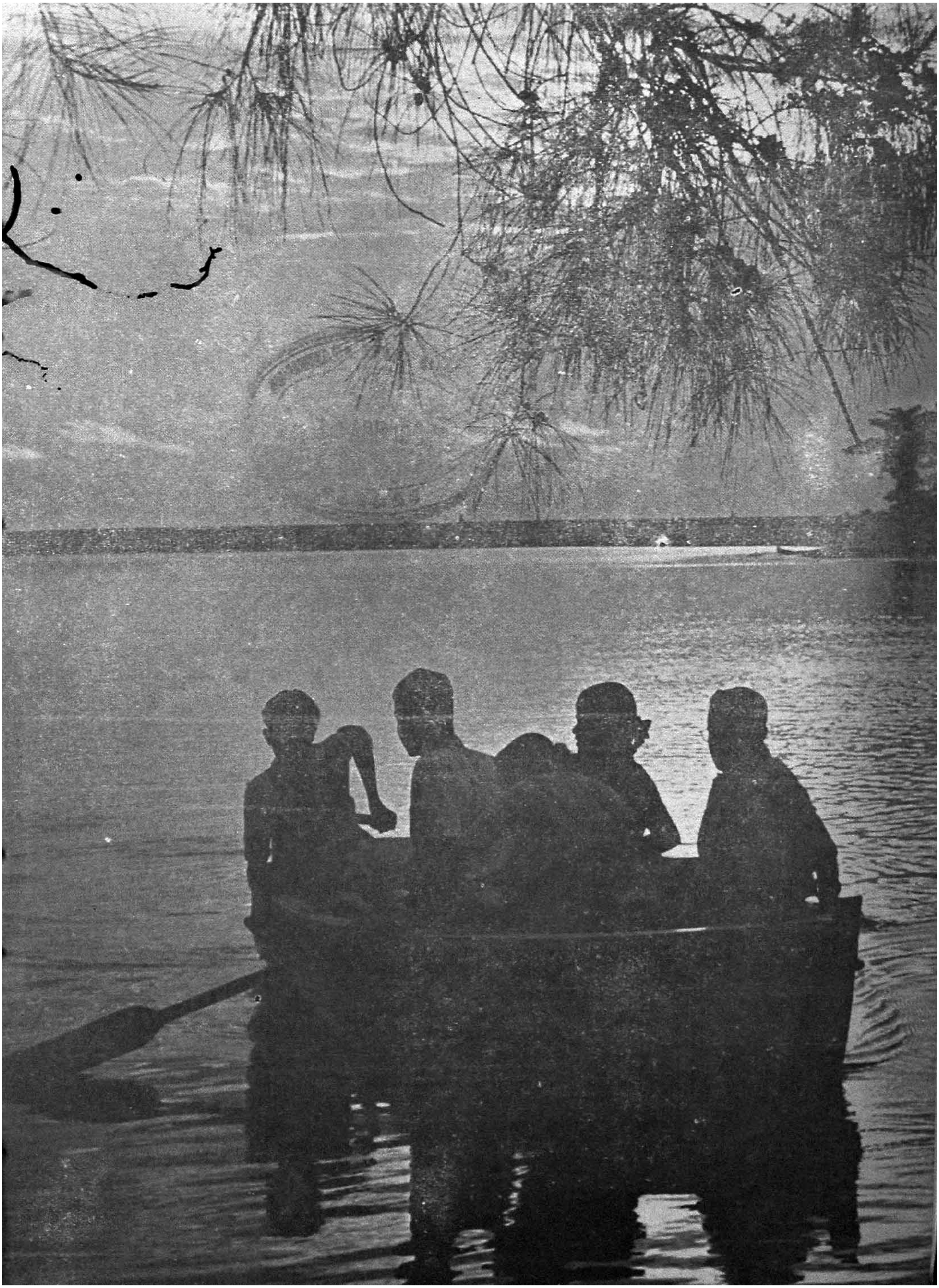


'As through the Lake we went'

By Bernard Coelho

'As through the Lake we went'

By Bernard Coelho



malaria get rid of their infection, even without treatment, in a period of one to three years unless, of course, the attack is fatal or they become re-infected.

Therefore, as effective insecticide campaigns can prevent the occurrence of new cases, and provided the treated zones are large enough to obviate the importation of infection from outside, a few years of spraying should be enough to secure the total eradication of malaria.

This has already been achieved in several regions, and the principal aim now is to attain this goal elsewhere also, before resistance to insecticides can develop. When this objective is reached, insecticide campaigns can be discontinued and the cost of malaria control will cease to be a burden on national health budgets.

This is the strategy recommended by the World Health Organization, and it has already been adopted by many countries throughout the world.

You can make more friends in two months by becoming interested in other people than you can in two years by trying to get other people interested in you.

DALE CARNEGIE.

* * * * *

Love is like a boomerang; throw it out and you will get it back.

"Shake Well Before Use"

I. Name the Inventors and Discoverers.

(1) Microscope.
(2) Glove.
(3) Malarial Parasite.
(4) Antiseptic Surgery.
(5) Clinical Thermometer.
(6) Bacteriophage.
(7) Cholera Vibrio.
(8) Blood Groups.
(9) Pre-systolic Thrill.
(10) Arterial surgery.
(11) Sphygmomanometer.
(12) Circulation.
(13) Spirillum minus of Rat Bite fever.
(14) Amoeba.
(15) Blood pressure.
(16) Pulsus Alternans.
(17) First Sulphonamide.
(18) Thyroxine
(19) A. C. T. H.
(20) Vitamin E.

II. Have a go at the diagnosis.

1. *A C. S. F. Report :*

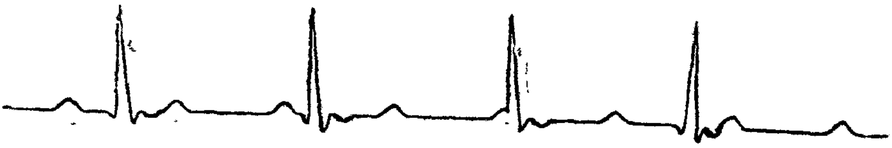
Tension	—	+
Colour	—	Colourless. Turbid
Cells	—	200/cmm.
Proteins	—	250 mg. %
Sugar	—	40 mg. %
Chloride	—	560 mg. %

Colloidal gold reaction–0000123100

2. *Record of Respiration.*

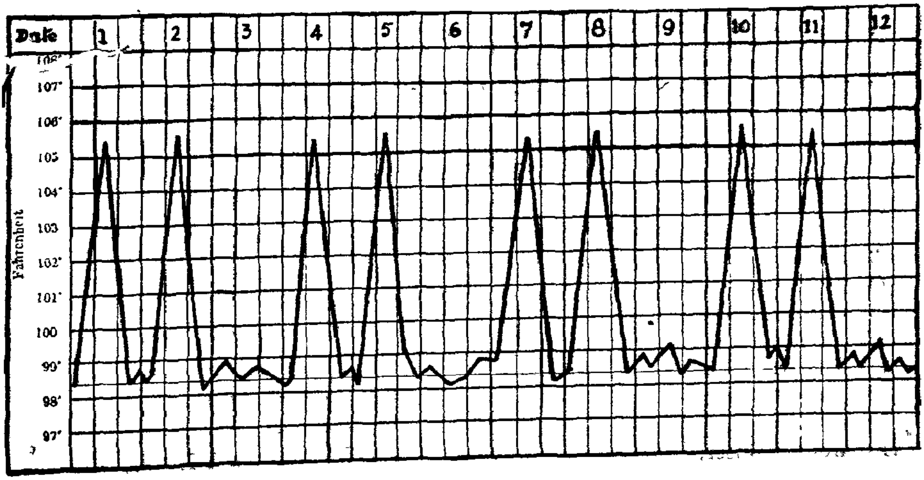
3. *Indicate the site of lesion.* A youngman complaints of inability to move the upper and lower limbs on the right side and angle of the mouth being drawn towards the same side on smiling.

4. *An Electrocardio Graphic Record.*



5. A young man of 32 comes with a complaint of polyuria. Urine on examination shows no albumin or sugar. Specific gravity 1003. Chloride in urine very low. C. S. F. examination showed 65 mg. percent of Proteins and celle 70/cm. Lyphocytes.

6. A Temperature Chart.



III. It will pay you at the right time if you remember.

(1) Murphy's sign is diagnostic of cholecystitis, but have no significance when the liver is enlarged.

(2) If you see plenty of bacteria under the microscope in a specimen of motion in the case of late stage of dysentry, you can make it sure that it is not a case of bacterial dysentry.

(3) Anopheles Rossie do not carry Malaria.

(4) In infective mononucleosis blood shows lymphocytosis and not monocytosis.

(5) A presystolic murmer or a gallop rythm can never occur in a case of Auricular Fibrillation.

IV. Know the answers.

(1) What is the distance between 2 cones in the sensitive layer of the Retina?

(2) How many Auditory strings are there in the organ of Corti?

(3) What are the cells of Claudius?

(4) What is Vogt Koyanagi Syndrome?

(5) What are Purkinjii Figures?

(6) Who won the Nobel Prize in Medicine for 1955–56? For what work?

(7) What is meant by the term Azotaemia?

(8) What is Galliverdin's sign?

(9) What is Teetotalism?

(10) What are living ligatures?

(11) What is Vicarious menstruation?

(12) What is Lohlein lesion?

(13) Name a disease in which the most avirulent organism produces the most fatal outcome.

(14) What is Foster Kennedy Syndrome?

(15) What is Aalsaamier'e test?

(16) What is Maxwell's dictum on Bacterial infection of lung?

ANSWERS

I. (1) Leeuwenhock.
(2) Halstead.
(3) Laveran.
(4) Lord Lister.
(5) Clifford Alberts.
(6) D' Herele.
(7) Robert Koch.
(8) Landsteiner.
(9) Corvesot.
(10) John Hunter.
(11) Von Bausch.
(12) Harvey.
(13) Futaki. Thataki. Thanukuchi. and Oossemi all of Japan.
(14) Loesch.
(15) Revt. Stephen Hales.
(16) Traube.
(17) Prontosil by Domagk.
(18) Kendall.
(19) Li, Simpson & Evans.
(20) Bishop & Evans.

II. (1) Tuberculous Meningitis.
(2) Cheyene Stokes respiration.
(3) Lesion in the left side of the Pons.
(4) Complete Heart Block.
(5) Basal meningitis with secondary Diabetes Insipidus.
(6) A double infection with the Quartran species of Malaria.

IV (1) 0.002 m. m.
(2) 24,000
(3) Large cells lining the basilar membrane in the Cochlea.
(4) Uveitis of unknown aetiology associated with depigmentation of skin and hair, whitening of eyebrows and eye-lashes and deafness.
(5) Visualisation of the blood vessels of one's own Retina, which may be brought about by looking at a bright surface through a pin hole in a card, moving the card from side to side at a fast rate (1 oscillation per second)
(6) Drs. Andre Cournand & Forssmann. Doing Cardiac catheterisation.
(7) Increase in the Non-protein Nitrogen content of blood.
(8) Ventricular rate being higher than the auricular rate as in Ventricular Tacchycardia.
(9) Complete Abstinence from drinking habbit.

(10) Oblique muscle fibres of the Uterus.

(11) Menstrual bleeding from places other than the uterine endometrium.

(12) The 'fleabitten' kidey of Focal Embolic Glomerulo nephritis showing multiple minute lesions due to embolic episodes.

(13) *Subacute Bacterial endocarditis produced by Streptococcus Viridans.*

(14) Tumour of the orbital surface of the Frontal lolbe, the olfactory lobe or the Pituitary body producing secondary optic atrophy of the same side (due to localised pressure) and papilloedema of the opposite side (due to Generalised Pressure)

(15) Normally when Adrenaline is injected the systolic B. P. rises while the diastolic remains the same. In Beri Beri when adrenaline is injected the systolic goes up aud also the diastolic goes down.

(16) *Result of infection* depends on resistance.

If both General & Local Resistance are good Pneumonitis results.

If General is good and Local bad Lung abscess produced.

If General is bad and local good Pneumonia develops.

If Both General and Local are bad Septicaemia occurs.

There is this difference between happiness and wisdom; he that thinks himself the happiest man is really so; but he that thinks himself the wisest is usually the greatest fool.

Bacon.

* * * *

It is the individual who is not interested in his fellow men who has the greatest difficulties in life and provides the greatest injury to others. It is from among such individuals that all human failures spring,

Dale Carnegie.

Medico in Distress

A. K. SIDDIQ, B. Sc. (Hons.); IV Year M. B. B. S.

The most colourful personality who haunted me with the maximum appeal in my younger days, was none other than our family Doc - a figure of poise and charm with a care-free ease in his very movements. His association with us imprinted in my tender heart a lasting impression of what I should be in future. The steth in his hand had such magnetic appeal for me as the flute of the Pied Piper for the children of Hameline. He was my hero. Whenever I was confronted with the question of my future, I used to tell without any hesitation " A Doctor "; Not because that I showed any aptitude in the subject of Medicine or Surgery, but of a pre-conceived notion that it is the best profession one can aspire for in life. Life of a medico was often pictured colourful and pleasant. I thought how lucky I would have been, had I got the passport to my utopia. But then I never dreampt that I would have to undergo the worst of ordeals to secure a seat in the medical college. I had to pay a very high dividend to reach my destination which had so much fascination for me as Hollywood was to a crazy movie-enthusiast!

I missed the bus many times but didnt give up the fight. I proved to be another Robert Bruce. I waited and waited till I succeeded. At long last, I, too, became a Medico! I heaved a sigh of relief. I was very much thrilled and my joy knew no bounds. My friends even got up a party to congratulate me on my rare achievement and to see me off to the wonder-land that is the heart-throb of many a disappointed aspirant. I was honoured!

But the real tests were only to begin. The trials and tribulations to which I was subjected would definitely invite the sympathy of the hardest of mortals. Somehow a feeling of weariness crept into my mind. I did'nt see things as I wished. My friends sensed a feeling of despair and monotony in my outlook and even branded me as a neurotic. I couldn't bear the ordeal of spending the morning hours with the bodies to be dissected. Life was dull and dreary to me. I was not the old jovial self. For fear of being condemned by my parents and friends, I decided to pull on somehow, let what may come of it.

Second year University examinations are in progress. I had fared satisfactorily well in theory papers and my only concern left was for the Anatomy practical examination which I feared most. A pass in the practical means a steth to me! I was very weak in practical but the very thought that I had the rare privilege of being once complimented by our own Professor for making a very good dissection of sub-occipital triangle, imparted a new vigour and confidence to me to face the practical examination boldly.

It was the day prior to the 'Ides of March' as it proved to be. A feeling of insecurity haunted me and I prayed to Almighty to steer me through the troubled waters quite safely. Being very sensitive and emotional by nature, I had no guts to

face the examiners when the time really came. "Will I pass?. Will I faint in the examination Hall.........Will the examiner eject me out of the hall for doing the dissection wrongly?". These were the problems facing me. I even went to the extent of thinking that it was quite foolish to have joined this course and invited so much of unwanted trouble. Brain was already taxed with these thoughts and I could not study any futher. At times I began to think quite rationally "After all it is only an examination. The worst thing one can conceive of is failure. That won't matter much since I can avail three more chances". But these logics were quite transient. I decided to sleep and switched off the light. However much I tried I couldn't sleep. I was thinking of the next morning's examination.

It was 10 O'clock. I was trembling with fear when I took the lot. The scene was quite tense. Pin-drop silence prevailed in the hall and there was an air of gravity all round. It was with much difficulty that I could find out my seat number. But alas! No body was there for me to dissect. I was really puzzled to find only an arm-rest and a stool. I couldn't account for all these. I verified my seat number but there was nothing wrong with that. I thought they will give me a body soon but they showed no indication of providing one for me. By this time my friends had started their work. I stood quite helplessly. The demonstrators cared very little for me. A tapping sound that was feeble first, became more and more audible now. This signalled the appearance of our external examiner in the hall. His very figure frightened me: a tall hefty person with a most disagreeable face. The curled moustaches and black suit aggravated his diabolic figure. I cursed my stars to have this man as our examiner. Nobody can expect kindness from a person of his external make up - He was grotesque to the core. To face him normally was beyond my imagination. He proved to match one of my child-hood horrors".

My friends were half way with their dissections. I did not know what to do. I told the demonstrator of my sad plight and enquired why they were not providing a body for me.

On this he was full or laughter. "Look here, my friend. Did you read the question paper? Fix up your hand in a convenient position and be quick with your work".

I did not understand the meaning of all these. I hastened to read the question paper. It was so fantastic that I wanted to cry loudly for help. I was all at sea. My already exhausted spirits died down completely. In the heat of excitement I fell down flat on the floor. My friends were wondering what was all these about. Can you believe this. The oddest of questions.

"Dissect out the deep branch of the ulnar nerve *in your own hand*".

Need I require anything more severe to lose my mental equilibrium?. Can anybody even imagine of doing this feat to get a pass! How inhuman it is to ask such a question. What sin have I done for all these? I only wished that I somehow got out of the hall for life. Was it the prize for waiting so long to get into this college? Had anybody heard of this before anywhere?

I was prepared for the worst. I swore that I can't do this work. The only recourse left open to me was to get the transfer certificate as early as possible and to join some other college so that my life will not be in any danger.

The demonstrator who was watching my neurotic gestures came to me. "Oh, it is such a simple dissection and you are making a scene here for no reason. If you wait any more, you are going to fail, mind you". He said.

I was very adamant "Sir, I can't risk my life over an examination. At the most I will fail." I retorted. The demonstrator made a sarcastic smile and left the scene.

Though I felt confident of telling the examiner blankly that I can't do this dissection for fear of losing my life, tears were rolling down my cheek when I thought of my hard fate. My friends nearby looked at me with kind gestures. But they were quite helpless. I alone was the scape-goat of the examiners that day. I decided to leave this college lest any bodily injury happens to me in further examinations. The earlier I quit, the better for my health. Who can deny the fact that it is a criminal procedure to ask one to display his dissection in his own body.

The time was almost up now. Most of my friends had left the hall. I was the only one remaining to be examined. Seing that I haven't done anything even after the scheduled time, the external examiner shouted in a devilish tone.

"What were you doing all. these time? This dissection normally requires only half an hour. You silly fellow, want to become a doctor so cheaply! It is not as easy as you think. For your impertinence. I will teach you a very good lesson".

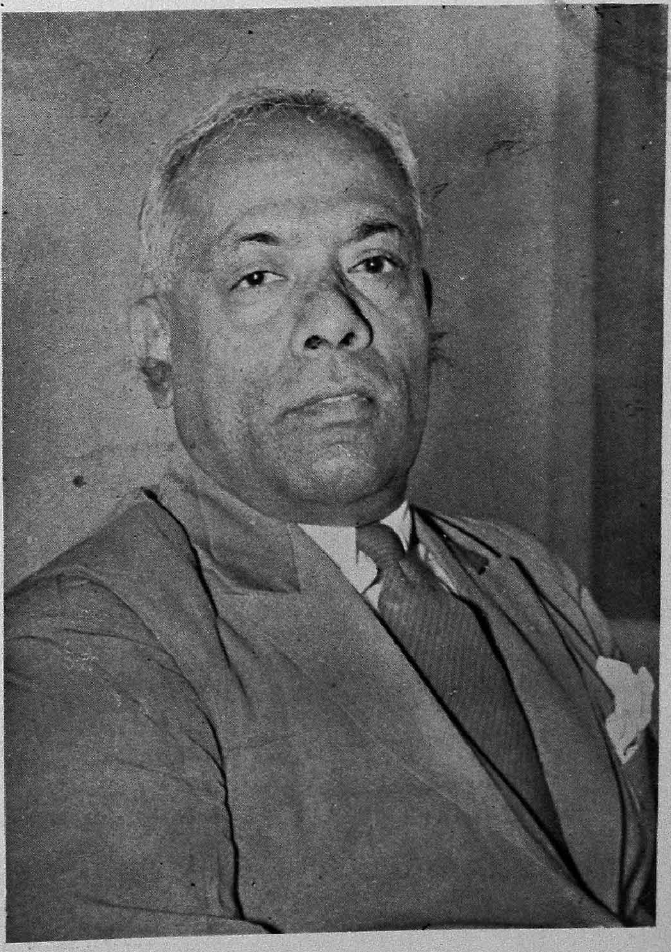
Somehow I managed to tell him that I can't risk my life over this dissection. That infuriated him further. It was adding insult to injury. He was shivering with rage and fury. I was just like a deer chased by a hungry lion. Soon he called in two demonstrators and shouted.

"Come on, fasten this boy's hand on the board firmly. Don't allow him to make any resistance. I must at least show him how to do his work. This sort of impertinance cannot be encouraged any further and has to be nipped off in the bud itself".

They did as they were directed. I was trapped but made the maximum attempts to run away. I had to yield finally, for, they were very strong men. My hand was fastened to the board. The examiner again shouted.

"You rascal, give me your scalpel". He caught hold of the scalpel from my hand. I wondered what he was going to do. I was at the point of breaking down .... I was anaesthetised in short .... My calculations were not wrong. Without any kindness or concern he made a firm incision on my hand starting from the wrist to the tip of the middle finger. He did this as a butcher cutting a lump of flesh. I jumped with pain and cried very loudly. I saw my hand in a pool of blood. I could feel the knife passing through my hand as a stream-lined boat cuts through the water and speeds up forwards. It was all over in a minute, I called for my Angels. I made a terrific screaming voice saying that I was fast dying.

30 APR 1957



DR. T. V. MATHEW
PROF: OF ANATOMY
HONORARY MEMBER OF THE ANATOMICAL SOCIETY OF INDIA

DR. KUMARAN NAIR
RETIRING LECTURER IN PREV: MEDICINE

My wife got up quite terrified over the noise I made and enquired what was wrong with me. I was very weak to answer her query. I asked for water. My heart was beating very fast. Drops of sweat could be seen all over my body. She was very much upset and said she would call a doctor immediately. I said "No." It was I. a. m. midnight. I calmed her saying that I saw a terrible dream and that there is nothing to worry about. I only wished that my neighbours do not run up to me to enquire about the noise I made so loudly.

How funny are dreams sometimes! If what all I saw were to be true the next morning, what would have been my fate!

"Let me tell you, young man, there is nothing like getting up at six in the morning, taking an ice cold shover, and a run around the hostel before breakfast."

"How long have you been doing this, Sir?"

"I start tomorrow."

He—I dreamt last night that I had invented a new breakfast food and was sampling some when...........

She—Yes. Yes. do go on

He—Then I woke up and found that half my pillow was missing.

1 APR 19..

"For Mother India!"

N. VASAVAN NAIR, Final Year M. B. B. S.

May 1948! The most dreadful days were over for Kashmir. The invaders from across the border were on the retreat before the mighty Indian Army. Beginning at the gates of the city of Srinagar, the enemy was routed on all fronts, driven out of 'Uri,' and such other towns, and thrown acoss the Jhelum. In front of our pursuing men, was the mighty river, 'Surging tumultously forward, writhing and leaping as if inspired by a demon.' Across the river, the bank rose up into a dyke and rolled off into a gradual slope. The enemy lay in wait on the dyke in trenches, foxholes and pill boxes, armed to the teeth in a desperate bid to stem the rot.

Our scouts crawled about in the bushes, studying the rugged terrain on the other side, marking down the enemy's gunpositions and seeking out the most convenient places for landing. The landing parties were behind the scouts. Our regiment was thrown on its own resources for crossing. All the landing equipment was being concentrated farther west at the spot that has been chosen for the main drive. Sappers and infantry men threw off their padded jackets, spat on their hands and set about making rafts. Down the forest path men carried on their shoulders, heavy boats and sharp nosed dugouts procured in the neighbouring villages. The landing parties were organised and they waited for the fall of dusk.

"Landing parties to the boats"!

The order was given in a whisper. But it made the impression of a thunder clap. The whole of the right bank suddenly stirred into life. Over the sand, the boats shot like arrows into the water. The bushes crackled and snapped under the heavy rafts. Splashing and gurgling noises filled the air. Men leapt into their frail crafts and shoved off with vigorous pulls at the oars. A boat with machine gunners darted by. Suddenly flares sent up on the other side lit up the sky, river, woods and all like a thousand meteors. Boats, rafts and cockle shells, swarming the glittering surface, stood revealed, suddenly stripped of their clock of darkness. Machine gun flashes broke out along the river side, pouring out blinding jets of molten metal along the crossing troops. Bullets plopped into water and around us and set it seething. The men pulled away in silence, shoulders hunched, oars ripping up the foaming waves. Ghastly shrieks came from the wounded. The river became an inferno. Artillery opened up on both sides dipping the forest in amaze of lightning and thunder. Mortar bombs whined over head and flopped heavily into the water, churning the river to the very bottom.

Progress now became slow, because the river was filled with capsized dugouts and shattered boats. Pushing away a capsized dug out Captain Viswanath, struggled to control his own boat and shouted to the men floundering in water to catch hold of it. They clung to its sides spluttering and gasping. Rowing became more difficult and the mortar men tugged at their oars with all their might. Suddenly there was a flash and an explosion. The captain crouched down instinctively and a great fountain came crashing down on him, drenching him from head to foot. He felt

the boat's unsteady bottom slipping from under him and his body plunged into the chilly river. Unexpectedly his feet touched the bottom. Gasping for breath, he looked around for his party.

"All here?"

"All here" the boys responded.

"Follow me" he shouted and the men clambered hastily ashore in his wake, under an umbrella of machine gun fire. A bridgehead was being established, extending over many miles in a tumult of gunfire, and the rolling tidal wave of the offensive. The menacing flashes of rockets over the trees receded farther and farther. Stretcher bearers and ambulance men were already there, darting about and picking up the wounded. Troops poured across, ceaselessly from the other side. Without waiting for the boats to ground, they jumped into the water and dashed for the shore with grenades gripped in their hands.

Corporal Joseph of the Mortar Company was hit on the shoulder. He jumped into the knee deep water with a cry of pain, but slipped and fell flat on his face. The next instant he was up; a defiant grin lit up his face. Blood was dripping down the sleeve and the whole uniform was stuck close to his wiry 74." His eyes burning with the fire of vengeance, he seemed to embody the spirit of the whole nation. Lifting the base plate from the raft he gave it a mighty push that sent it floating down the swift current.

"May you float all the way down to Cape Comorin, spreading the heroic story of a bridgehead in Kashmir." He shouted at the top his voice.

The sappers were putting up a bridge. They worked right through the night in the icy water and still the bridge was not ready by the morning. The forest near the bridging site, swarmed with artillery and lorries and waggons of the supply column. The men knew only too well, what it was to hold a bridgehead without artillery. True; some light batteries have been shipped across. But the whole heavy artilleries and supplies were held up for want of bridges.

An enemy reconnaisance plane appeared over head and the chemical outfit had to throw up smoke screens to cover up the activities. Now shells were beginning to drop The enemy was bombarding the bridge. Some of them burst quite close drowning out the noises of axes and hammers. The men threw themselves flat on the ground and scattered themselves in nearby bushes. When the shells ceased to drop and the smoke lifted, it looked as though the bridge too went up with it; for there was no bridge - It had been shelled to pieces.

Across the river guns pounded away incessantly along a stretch of miles. Enemy self-propelled guns hidden in the ravine spoke with the characteristic bang. One could even make out the unreal bird-like sound of the machine guns. The wounded evacuated from the bridgehead had far from comforting news. They looked back in terror, as though hardly able to believe that they have come out of it alive.

Ranjit, a burly middle aged man from Gujerat was in charge of the supply column. He has been watching all these in grim silence. He could wait no longer. Supplies should reach the bridge head at once. Bridges were needed. Bridges!. He suddenly wheeled about, his swarthy countenance steaming and puffing, and caught sight of a H. Q. Scout about to gallop off. "Hi, sergeant" he shouted. "Any bridges ready?" "Yes!" came the

reply, "The Rajput Rifles, one upstreams."
"Where?"

" A quarter of a mile."

That was a break at last ! Hurrah ! At the gallop ! shoot along ! step on it ! " he shouted. Putting spurs to his horse and setting his teeth in a triumphant grin, he tore along eastward, the waggons close to his heels. The bridge was swarming with crossing troops and vehicles. But he still tore along, not caring for the angry look of the men. Once across, it was easier; cutting through a little copse they came out into the open country and set the course along the dyke at breakneck speed.

A line of trenches ran all along the dyke. The enemy was pretty close. Shells began dropping nearer and nearer. Ranjit kept his waggons close to the trenches so that the drivers could take cover in case of necessity. Explosions rent the air all round. Dazed by the din and racket, Ranjit hardly noticed how he came abreast of his own battalion. A host of familiar faces looked at him from the embankment; but he scarcely recognised them. The men waved their arms and shouted to him – "Take cover."

The drivers leapt from their seats and dived into the nearest fox holes. Ranjit, his ears ringing, jumped down into the nearest fox hole, and landed squarely on somebody's back. Regaining his balance, he found himself facing Joseph.

" Joseph ! " he cried. Joseph was immensely pleased. " You from the bridges, Renjit ? what have you brought ? "

"Bombs ! Grenades."

"Grenades! that is fine, we sure need them. Beaten off five counter attacks already. It has been simply hell here. "

Now they were bringing in the colours. " The colours ! the colours ! " — Eager voices shouted in several places all at once. True, the standard bearers were crossing the field pitted with holes and still shrouded in a cloud of smoke. A tense hush fell upon the dyke. Troubled faces grew bright. Dimmed harassed eyes lit up & shone with determination and fresh cheer.

The sixth counter attack was led off by tanks. These giants crawled out of the broad hollow before the dyke, fell in a row, and opened out with their 30 m.m. guns. With guns still blazing away, they clattered forward in a frontal attack. In the wake of the tanks came the enemy troops, bending low and shooting haphazardly as they ran.

The dyke was still. The tank destroyers stood tense by their antitank rifles. Renjit put his hands on the bunch of grenades lying before him. Joseph had got a bunch ready too. He had the feeling that the tanks were heading straight his way and the regimental colours stood exactly behind him. In fact every man was feeling that he was the sole defender, of the colours. The tanks lumbered forward like some pre-historic animal clambering out of water. Joseph saw neither sun nor sky. His whole world consisted now only of the roaring steel Juggernauts that bore down on him.

The dyke was grimly silent. Even the wounded stiffled their groans. The standard bearers stood motionless in breast deep trenches behind the dyke. Suddenly, the antitank rifles began snapping all along. The machine guns opened up in long rhythmic bursts. Further behind, the mortars started coughing in chorus.

One of the tanks, was already crawling up the dyke, heading straight for Joseph. Another minute and it would flatten him. Renjit to the ground and make for the standard bearers. "No! It should never get thus far" muttered Joseph, and let go his grenade at the tank. There was a flash and an explosion. But the giant still crawled on. Frantically clutching another grenade, he and Renjit let fly with one accord. The next instant, Joseph, clutching a 20 lbs. bunch of grenades, threw himself flat before the rolling monster. It will surely crush him, but will never get beyond him. "Sweet death Renji"—Excruciating seconds! Every second he expected to feel the crushing weight of the tank on his head. He heard an explosion. He waited still and gave himself up for dead. Seconds crawled on. But nothing happened. He stood up; Not believing himself, he felt for his limbs. Good God! he was very much alive! He looked for the tank, And lo! There it stood on one side, enveloped in beautiful yellow flame—The grenade has done its work!

The machine gunners raked the enemy infantry, emptying belt after belt. The whole field was studded with wrecked tanks. The enemy rushed from side to side like a stampeded herd.

"Charge!"

"Charge! charge!"—echoed the command from a thousand throats. Leaping forward, rifle in hand Joseph saw the fleeing enemy in front. Firing rapidly, he was upon them in an instant. Wielding his rifle like a club he swept across the field like a whirlwind. Every mighty swing accounted for more than one enemy. Heads cracked and necks snapped under his butt. A bearded Pathan, in a burst of courage charged at him with his beyonet. But, soon he regretted his courage. He even wished, he was never born. A swing of the rifle, brought down the Pathan, but sent his rifle towards the sky. His jaw experienced a rather powerful contact with an unfriendly fist. Joseph repeated the performance in spiteful vengeance.

"This is for every innocent soul murdered by you"

A jab in the ribs.

"This for every home burned down by you".

And he wound up with a majestic kick that sent him sprawling head long along the slope. "And this for my blood in the mighty Jhelum."

Joseph looked up. He was bleeding profusely at a dozen places. The enemy was routed. All were resting except the ambulance men. He looked towards the west. The sun, cutting itself upon the jutting hills, was bleeding into the valley, covering the whole world with a flowing velvetty crimson. To his right, the regimental colours fluttered in the breeze, against the glimmering background. He drew himself up in attention and gave a full blooded salute. He felt his knees giving way under him. Gradually he sagged and fell muttering "for MOTHER INDIA!"

Some Hard Days of Life

N. S. VENUGOPAL, III Year

Life is a fight and Mind a battlefield. This is one of the oldest proverbs. The sage who discerned it spoke truth. Conflicting thoughts and ideas are always at war. Mind is pestered every now and then by one or the other thought. Life is thus made up of an endless chain of wars. People, indeed who are wise and knowing a lot often say that the period of youth is the pleasant fraction of one's life. But, for the youth this period is most thorny and rather irksome. No child ever likes to go to school to study. For it, the school is a place where one is tortured and punished. No grown up, however precocious he may be, ever welcomes the examinations which are apparently the objectives of the studies. But the life of a student is a continuous procession of these abominable examinations. May be it is to make him prepared to face harder examinations of life.

Examination is a torture, a terrific sort of torture. The worry and obsession which one has before and at examination and above all on the day the result is known are indescribable. Perhaps the period of examination is worst period of one's life.

Obsession—amounting to what degree, sometimes it is difficult to be imagined. The heaviness of heart increases as the day approaches. Restlessness, poor appetite and even sleeplessness !

The mind will be a battlefield. Suppose we have studied almost all important portions and we feel some amount of confidence, then one will come in and ask a question. Gone ! all gone. We have left that portion. Despondence and pessimism reign. We feel at once that we know nothing. We will curse our poor brain. We will feel envy of our friends who seem to know. The dessipation may mount to such an extent that we will curse the weak moment in which we chose the profession. Other branches of knowledge will appear alluring.

An examination infected person will be in all probability a bit excentric. He will have the general tendency of saying reiteratedly that he knows nothing and is sure to fail. If some innocent fellow nodes his head in assent or appears to take him by his word he feels disappointed and disgusted with that person and it may well make him long to kick him for his tactlessness or sheer lack of knowledge in Psychology. If on the other hand, the latter dissents and talks Billingsgate at him he will be glad. It inspires him. He imbibes courage and confidence from it. The more he studies and the more he is optimistic the more will be it — frequent for him to speak of his hopelessness.

It is the usual want of most to keep awake till the short hours of night and it is often found that one is eager to burn the mid-night oil a little more than his neighbour does. Perhaps a healthy practice of competition. But just the day before examination, there comes a time when one feels almost hopeless. One feels one is sure to fail. There is the feeling that

everyone except himself will pass and then there is the most pathetic thought if that so happens. Intolerable! Mind becomes stationary. Thoughts become stagnant. The rest appears unthinkable.

During this period the most favourite dreams will be an earthquake and the college demolished, or a third world-war and country becoming an object of either belligerant party and we all over might subjected to conscription; or the breaking out of a perticence and the locality proclaimed uninhabitable and if all these fail, himself caught of some disease. Somehow freed from the killing process.

But in the morning one gets up as usual to one's great dismay to face the usual routine and the examination.

Anyhow the examination passes on like an unbreakable law of nature. Neither the building collapses nor any perticence breaks out.

The days in general prior to the examination are highly torturing. This time is hard enough to make anyone neurotic if not insane. But a few minutes during this period is the most trialsome the time when one is asked to wait outside the oral examination place, if there is an accompanying one. Ten minutes! It is ten years. Nay, ten centuries. The thought that next it is his turn, makes him all the more panicky. If it is a "she" tears will have an incessant flow. If a "he" attempt will be made on his part to put up a courageous countenance. *Ah!* then the bell!

Life may have to offer more bitter trials. More difficult time may be in store for us. But this in no way alleviates the gravity of this occasion.

A American tourist — "I am afraid I have made a mistake and tipped the Duke."

Butter— "That's a pity, sir, now I won't be able to get out of him."

Ultimate Diagnosis

DR. SUSHAMA NEELAKANTAN

Characters:

(1) *Harry*: A young novelist, struggling to make a living.

(2) *Alice*: His young sister, a successful seamstress.

(3) *Miss Matilda Guinshaw*: Their wealthy aunt, and old irritable spinster of 55, a man-hater and leader of the Anti-Male League.

(4) *Robert*: Friend of Harry. (A final year medical student)

Act—I

Place: A house in London. Time: 10 A.M. Scene: The drawing room. A comfortable little room with a cosy fire-place.

(Alice is seen stitching on the sofa. Enter Harry with a letter)

Harry: Hullo! Alice! Here is a letter for you. By the scrambling handwriting I guess it is from that old fussy-pot Aunt Guins (hands letter to Alice who reads it aloud).

Dear Alice,

Well! it's long since I heard from you. It is rather lonely in this huge house and I would like a bit of company. I am thinking of seeing some good doctors in London. I get sort of Punny aches all over my body. The doctors I have consulted here, are mere blockheads. They can't make out a prescription from a subscription...... Yesterday I went to visit Mrs. Jones to get a subscription for an Anti-Male League when out popped her husband Dr. Jones, from his study with a prescription for neurosis. I gave him a piece of my mind but he seemed to be unperturbed. I guess he thinks me a neurotic, the idiotic fool.

So look up some smart doctors for me my dear. I'll be reaching London by 2 p. m. Mind you, I want the place spick and span when I reach there. If anything displeases me I will cut you out of my will. How is that Jackanapes, Harry getting on? After all he is a poor specimen of that class I detest. So bye-bye dearie.

Aunt Matilda

(Folds the letter and gives it to Harry who tears it up in a rage and throws it into the fire).

Harry: (Scomling) The old hag! I have half a mind to kick her out of this house when she comes. A poor specimen of my sex, am I? Well! I'll show her what I can do. I'll sphacelate her and throw her into the Thames, the dirty bitch.

Alice: Hush, Harry! I know Aunt Matilda is a nasty, cross old thing. But she is the only relation we have left in this world, Harry. Father died penniless, you know and don't you remember his last words. He told us to be always kind and courteous to Aunt Matilda. If we are kind and tolerant to Aunty, she may include us in her will, Harry, if not all her money goes to that Anti-Male League of her's. Now be a dearie, and calm down Harry.

Harry: Gosh! I guess you are right, Alice. But it is rather difficult for me to be all smiles while I am fuming inside, when I see that poker-faced hussy. I'll have to control my temper and dance to her tune, I suppose.

Alice: That's it Harry. Now I'll do a bit of tidying up and prepare one or two of Aunty's favourite dishes for lunch.

Harry: O. K. Alice. I'll pick out and fix a doctor and then go and meet Aunty. I'll see if I can do a bit of builtering to get into her good books. (Exit)

Alice: Poor Harry! He always gets into some scrape when Aunty is here. I hope he will make a good impression this time. *(gets herself busy tidying up)* —— (Curtain falls)

Act II

(Enter Alice with a bunch of flowers which she puts into the vase. A knock is heard.)

Alice: That must be Aunt, now. (Aloud) come in.

(Enter Aunt Matilda carrying a monstrous hand-bag and a ridiculous looking hat. She has spectacles but peers over them. Harry is just behind carrying her trunk. Alice goes forward to greet her)

Alice: Welcome! Aunty! Welcome. (She embraces her)

Aunt: Now, Now, That's enough. You will spoil my dress if you are so careless. There clumsy girl, you have already knocked down my pretty hat. *(Alice picks up the hat)*

Alice: Oh! I am sorry, Aunty. Now please sit down, Aunty. You must be dead tired. *(Harry puts down the trunk and pulls a chair forward)*

Aunt: Thank you Harry! You seem a good boy to-day.

(Harry makes a face and disappears with her trunk. Aunt Matilda peers all over the room, which seems very neat and tidy. Not satisfied, to Alice's consternation, she rises and goes to the table and inspects it).

Aunt: Fut! Fut! What is this Alice? There are stains on this table cloth as big as the map of Asia. Well! What were you doing at this table? Were you having a geography lesson or a dabbling in ink? Can't you be more neat and tidy?

Alice: (sulking) Oh! I am sorry, Aunt.

(Aunt Matilda, picks up the vase, looks underneath it which is full of dust).

Aunt: Ah! I see. You thought I'll not find out your tricks. You have swept all the dust on the table and hidden it under the vase. *(She looks into the vase)* Hey! Alice what is this? The vase is full of bread crumbs. How did they come here?

Alice: I am sorry Aunt. I didn't get time to throw them away after breakfast so I just popped them into the vase.

Aunt: *(Looks at the floor)*. The floor looks as though it hasn't been scrubbed for years, and the walls are thick with dust. Now, show me my room and get me my dinner, will you?

Alice: Yes, Aunty. *(Exit both)* ——— (Curtain)

Act III

(Alice is seen stitching on the sofa. Harry

is busy writing. Enter Aunt who sits down near Alice. Examines Alice's stitching).

Aunt Metilda: H're' You seem to be clever at needle work, my dear. I would like to see more of your work.

Alice: Yes, Aunty.

(Both are quiet for a minute. Alice furtively glances at Aunt Matilda).

Alice: Aunt Matilda, I think you are the leader of some Anti-Male League. What is the object of this league and what do you actually do ?

Aunt: You are right, my dear. I am the president of the Anti-Male League. We prepare speeches, and those who have touch of oratory in them go out into the world twice a week to deliver speeches and save those helpless women who are already under the yoke of male tyranny.

Alice: And what do you actually speak of, Aunty ?

Aunt: God created two sexes, man and woman. He had that they were to have equal rights. But are they doing so ? Man prides himself over his strength and ferocity. He had reduced woman to a mere slave who should dance to his whim and fancy. She is left at home struggling with the kids while he shruts up and down the whole day, spending his money on drink and pleasures.

(Harry has stopped his work and listens with a scowl on his features).

Alice: (*interrupting* But Aunty, All are not the same. There are good men who love their family above all things in the world, who are kind and gentle and God-fearing by nature. Besides, all women are not so good as you presume them to be, Aunty. There are many instances of female tyranny exceeding its limit where the husband is reduced to a mere figure-head in his house. With no will power of his own, but the power to obey. He becomes a mere puppet in the house tied to the apron strings of his portly and over-ruling partner. And how many instances are there of women beautiful in looks but selfish by nature of leading dutiful husbands and fathers astray and splitting up happy and prosperous families.

Aunt Matilda: (Angrily stamping her foot).

Stuff and nonsense, Alice ! I don't believe a word of what you say. Men are the most selfish, ungrateful, beastly creatures, (*Meanwhile Harry gets up and gets away*) I have ever seen. I hate the right of them, even Harry, though he is my nephew..............Ooh .... What is that *(a loud blaring sound is heard which drowns her voice and gives her a start)* Well ! What was I saying, Oh about Harry. Well, even though he is my neph......... (*the sound is heard again which again startles her and drowns her voice)*...........Now what monkey business is going on here. I am going to investigate. (*Strides off*)

Alice: Oh ! dear ! I am sure it is poor Harry. He must have got fed up of listening to her nonsense and insults. The poor boy is keen on finishing his book this month and her butting in and interrupting him whenever he is at work. Oh ! here they come. *(She drops her work in alarm. Enter Aunt dragging Harry by the arm who is lookiny very flustered and he has a trumpet in the other hand).*

Aunt: Caught you red-handed, my boy: Didn't I? Now please explain your strange behaviour, you knave. Were you not trying to interrupt my lively conversation with Alice?

Harry: (*picture of innocence*). Oh! No, Aunty! I didn't in the least know about any liveliness going on in this room. I was trying out a tune on my bugle.

Aunt: Ah! I see! Then you are forgiven. But I wonder it is true (*Alice bursts out laughing. Harry too smiles and at Alice)*.

Aunt: (*Unaware of the smiles and minks, she sits down. All are silent for a while.*

Aunt: My main purpose in coming to London is to see a doctor. I heard you have already fixed up a doctor, Harry?

Harry: Ye......Yes. Aunty. Dr. Robert the smartest doctor in London. I'll fetch him now. But to make a good impression I hope you will be in bed when he arrives.

Aunt: Oh! Yes, anything to please the old doc......... (*Exit*)

Alice: Hullo! Harry! What's the trick? I know your friend Robert. He is not a doctor yet? He is only a final year student.

Harry: Robert will be coming as Dr. Robert. I have explained the whole plan to him. Now we can reap the profit of our troubles.

Alice: I don't know what you are driving at, Harry.

Harry: Wait and see, old girl. I am off now. (*Exit*)

Alice: (Persively) I hope all turns out well.

Act IV

(*Alice is seen stitching. Enter Harry and Dr. Roberts).*

Alice: (*rising*) Hullo! Good morning! Robert.

Robert: Good morning! Alice! How is the old dame Guinshaw.

Harry: Run up and fetch her, Alice. Tell her Dr. Roberts has come.

Alice: O. K. (Exit)

(*Harry & Robert sit down on the sofa*)

Harry: I hope you will succeed, Robert. My whole future depends on your performance to-day.

Robert: Cheer up, old boy. Leave it to your Robert and everything will be O. K.

(*Enter Alice supporting her Aunt who has all on a sudden assumed the appearance of a very sick invalid. Both the men rise. Harry wishes forward and helps her to the sofa*).

Harry: Well Aunty! This is Dr. Roberts of whom I spoke. Now tell him all your troubles Aunty. Dr. Roberts, this is your patient. Miss. Matilda Guinshaw.

Aunt Matilda; Well! I get the most frightful aches and pain all over my body. I get no sleep at night. I just toss about in bed till daybreak and I get the most humble dreams at night if I chance to fall asleep.

Dr. Roberts: Please lie down. Miss Guinshaw. Let me examine your anatomy. (*Aunt lies down on the sofa. Robert bends down and examines her*). There is nothing organically wrong in this case. But at the same time there is something amiss. I

guess it is something psychological. Examination of the C. N. S. shows that there is a certain amount of eccentricity. (*Remains thoughtful for a second*). Well! Miss Guinshaw I shall tell you what is actually wrong with you. (*Pause*) I presume you are not having sufficient rest for your age. You must be nearly 60. At your age, you must have complete rest and relaxation and live in happy homely surroundings. I believe you have been trying yourself out all these days with some work or other?

Aunt: Oh! Yes! I am a very active member of the Anti-Male League. I spend most of my energy in giving speeches, meetings and recruiting more and more members.

Dr. Robert: What! Anti-Male League! Giving speeches and arranging meetings when you should be sitting nice and quiet at home with a few young faces around to cheer you up? Well! being my patient I firmly forbid any more activities on your part Miss Guinshaw. Why! Miss Guinshaw go to the extent of all this nervous break-down and sleepless nights when you could be sleeping as soundly as a boy, having such a charming nephew and niece? My advice to you, is to break off from this Anti-Male League or what ever it is, to hand över all your troubles, your financial matters to Harry which will take a load off your mind. That is all the medicine you need. I know Harry in and out. He is the most trustworthy, kind and unselfish person I haver ever met.

Aunt: Oh! Is that your opinion, doctor? You may be right. I see, I have been trying to lead a life which has been too much for me. I should only be too glad to follow your advice, Doctor. Yes, Harry and Alice are very good children. You have already taken a load off my mind, doctor, and I now feel as fit as a fiddle. I am going to quit that damned league which has been draining both my energy and my purse. I will write my will today itself and leave all my possessions to Alice and Harry and they can take care of me for the rest of my life and then I can die in peace......(pause)

Well! Doctor! what about your fee?

Robert: Oh! Miss Guinshaw! I don't want any fees for this consultation. It has been only a friendly talk and advice. So please let me take my leave now. Good bye.

Aunt: (clasping his hand) Thank you, very much Dr. Roberts. You have been very kind. Good bye. *(Exit Robert)*

Harry & Alice: Three cheers for good old Aunt Matilda. Hip, hip, Hurray. Hip, Hip — —

(Aunty looks on smiling)

(Curtain falls)

A Villager's Simplicity.

VED MITRA B. SHARMA, II Year M. B. B. S.

Emerged I from my plain country,
Finding myself amidst the city gentry.

Their dresses so different from mine,
So upto date, so clean and so fine ;
To get one for myself I did pine,
And to a big shop I went with rupees nine.

The proprietor of the shop, well dressed,
To various customers the quality of cloth stressed,
After which, to strike a bargain he pressed,
But the refusal of the customers to him distressed.

Went the prospective customers out,
While stepped I into shop with a gait stout.

"I want a dress," said I with haughty air.
"Show me one with colour good and appearance fair."
He looked at me with a smiling stare,
Examining the queer dress I did wear.

"A dress of what type and value want you ?"
"That suit, for rupees nine and colour blue."
But I was frightened to see himself to turn blue ;
"That dress and you with rupees so few"

"Get out of the shop and on your heels be,"
Like a hungry lion fully roared he ;
But as I stepped out again, I did see,
Men with dresses for which I had desire within me.

But the desire which I had recently cherished,
Within my heart gradually had perished.

Now I think and believe simplicity is the best,
Of all the dresses in which men are dressed ;
And with all my heart appearances I detest,
Thinking that that desire marked a moment weakest.

The Strange Light-House*

VED MITRA SHARMA, II Year, M. B. B. S.

Mala was my classmate. Not only that we had been neighbours since our childhood, we had played together, quarrelled with each other, reconciling with a spirit of friendship, and grown together. We grew up to be very intimate friends but as we became aware of the world around us, leaving innocence behind us, our behaviour towards each other too accommodated itself in its new atmosphere of awareness. Every action began to be guided by propriety. Mala, I particularly noted, exhibited that element of shyness which so adorns a growing girl.

I loved Mala ; nay I had always loved her – first as a child and now as a youth. Intelligent, simple and possessed of a unique understanding of human nature, there was something about her that was enchanting indeed. Indeed beauty requires no make-up. She had an appearance as winning as it was respectable and I had always wondered how I had reached my age without harping upon those delicate strings which could have provided me with melodious music. Was it that I was incapable of successfully manipulating an instrument of love so familiar to me ? Why was it that I never trespassed the limit of that intense friendship and showed to her the keenness and sincerity of my inward desire ? Many a determination of mine had fallen short of execution. In the presence of a lady of her nature I perfectly knew I may say, without fear of exaggeration, that even a more resolute man might have done the same thing. Might be one feels inferior in a surrounding where nature has liberally and yet unerringly bestowed quality upon quality or might be one feels encroachment upon shyness, modesty and respectability. But whatever be the reason, that fact remains that beyond a feeling of brotherly affection I dared not reveal anything. Nevertheless I have reasons for it. While Mala lacked the sweet presence of a brother at home, I was strange to that love which a sister only can give to a brother. This coincidence, coupled with my inability of expression, had taken a hold in my mind.

* * * *

A couple of years rolled by. I had procured a job in a firm in Bombay and had been out from home for two years. The sweetness of home I realised only after segregation from it. There was eagerness in me to be once more back in the folds of its warmth. But I confess that this eagerness was not unmingled with a desire to be closer to Mala. Never had I before considered she would so much dominate my mind. Separation had brought in the field of awareness a bond which hitherto had never received attention with such force. And needless to say many a moment of my existance in Bombay I spent in contemplating my future in relation to her. With a sense of justification I felt that she had inspired me, guided me and really

* Awarded the first prize in the Short Story Competition held by the College Association in connection with the College Day Celebrations.

made me what I was. This inspiration, this guidance, had miraculously and yet surely enough moulded my character. I read, over and over again, that chapter of my life the recollection of which could not fade away from the mind and yet living in it I had never known its real worth. I came to a solemn conclusion that I must take the earliest opportunity to clarify that relation to her. I began to imagine how I would approach her, how I would render my feelings and what reactions I would note in her. While my mental rehearsals did not swing much in regard to my method of approach and revelation of feelings, there was a good deal of sway on the head of her reactions. I could never be definite.

* * * *

The tonga was jolting in the pleasant spring weather and the site of familiar places crowded in my mental chamber an array of memories. That tree near the school looked as in olden days. There under it I had slapped Mala when she had told me she would tell mummy I was not regular in my attendance. I vividly remember how she had come to me and said she was not angry. "I did not mean it, Ajay!" she had affectionately assured me. And here, behind this wall, I had hid myself, dreading to go home with a poor mark-sheet. How admirably she had persuaded me to be bold and manly! I was suddenly roused from this reverie by the stopping of tonga. I looked around and my face beamed with joy peculiar to a man in my possession. I had opted not to inform of my arrival, intending to pounce unexpectedly upon home.

"My Ajay, Ajay dear!" My mother almost wept with joy.

* * * *

The very same evening, I went to see Mala. I rang the door-bell. It was a moment of sheer excitement. I forgot that a gap had to be bridged across the stream of time. I fancied her as I had last seen her. I heard light steps approach, the door opened and our eyes met. I saw in an instant something in her that I had never seen before. But I thought it was a foolish fancy, for the very next moment, recovering from surprise, she was all smiles. Head downcast, with a tone as tender as it was sweet, she said, "when did you come, Ajay? It is such a pleasant surprise! Come in. Mummy will be simply glad."

I walked in, never moving my eyes from her. There was womanly grace in her now but there was something I missed in her. Where was the lustre in her eyes and where the agility in her?

"Take your seat, Ajay. I will call mummy.

"Mala, you know I hate formality," still looking at her and trying to see if my eyes had cheated me. "I am not a stranger to you, to this place. We will go to auntie and surprise her."

She lifted her eyes, smiled and said, "As you please, Ajay."

I motioned her to proceed and very carefully followed. She went into the verandah where her mother was, while I listened at the door.

"Mummy, imagine who could have come to us!"

"Who could it be? You are so joyous, Mala. For this one year I never saw such expression in you!" And she got up, still scrutinising her, I had now come to the door.

"Ajay! when did you come? You never informed anybody." She took long to re-

cover from this surprise, Mala had prepared tea and after that we talked for a long time. I was unusually in high spirits that evening and I know at a particular remark I made concerning the fashion at Bombay, she had a fit of laughter followed by an attack of cough.

"Well, I think I should move now. But before I go I want you," addressing Mala, "to guess what I have brought for you from Bombay. I will give two chances."

"I have not studied astrology," came the reply with an expression of playfulness.

I took a packet out of my pocket and, handing it over to her, said, "In that case, do not open until you have studied astrology."

* * * *

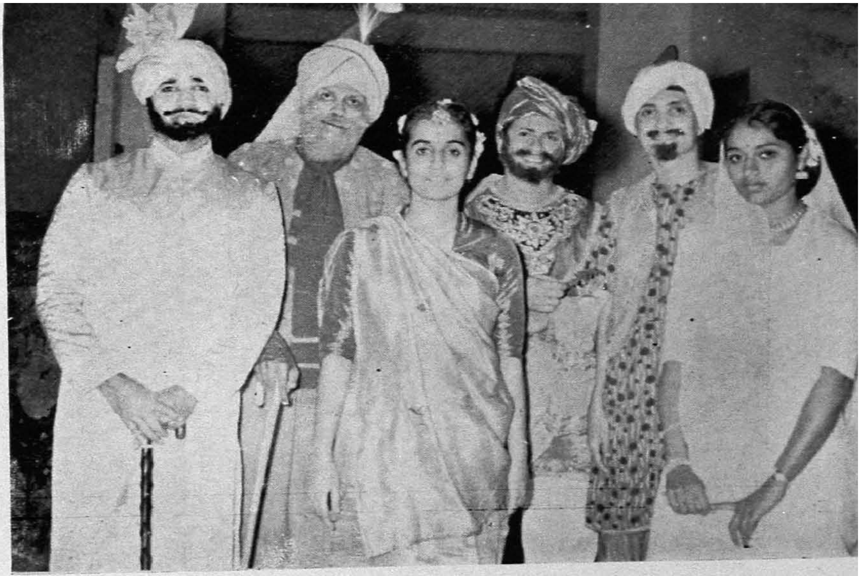
Mala, I have been much hesitant in telling you something, but now I must do it; now or never. I have kept from you a certain feeling which has been lingering in my heart. That my revelation will startle you, I do not know. But I have reached a stage when I deem it necessary not to cheat myself any longer. The fact is that I have loved you and loved everything that belonged to you. Your happiness has been mine and your sorrow mine. I claim not to judge your feelings but I have said what I think I ought to have. I leave my future to you, Mala."

All this I said in a moment of complete possession by a feeling that had bubbled forth in a way I had never imagined. She listened to me with coolness andcomposure; not a single word, not a single feeling surprised her, as though it had already been conveyed to her by some unknown messenger. No sooner I stopped than she turned her back to me and walked slowly towards the window. She lifted her right hand, reached her face, and I knew what she was doing. Then she turned towards me, almost choking with emotion.

"The picture has not been one-sided," she said. "Every quality in you has been most palatable to me. Living in your world was a bliss, immortal happiness. That necklace, you presented to me, shall remain the most cherished materialistic aspect of our companionship, for it will evoke in me a memory sacred because there was purity, there was immortality in it. With hesitation, with a mighty effort, I must say I have my own conscience, which I ought to respect. Here she burst forth into sobs, and not very long afterwards, resumed; "No, no! I must not do this. Well, I was saying that most reluctantly I ought to tell you that for the present it will be in your interest as well as mine not to think of it. The best thing will be to close that chapter for ever in a spirit of sacrifice. I know it will pain you to the extreme as it has pained me, but..........." But before she could say any word her voice failed her, and she asked for water. She coughed most pathetically and I noticed a stream of unchecked tears racing down her cheeks.

* * * *

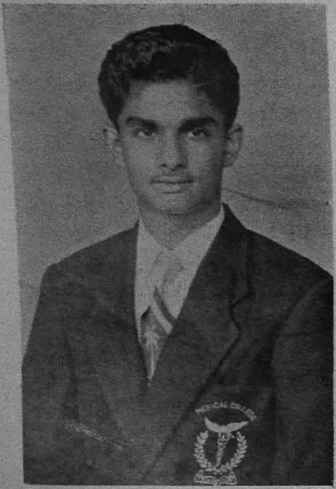
I was back in Bombay, but I thought I was in a dream. The conversation echoed in my head a hundred and one times a day. It drove me almost mad. I identified myself for the first time with those who said life was unbearable in such unhappiness. Had she not plainly confessed she loved me and had found a world of happiness in me? And yet entreated me to close that chapter for ever. Why did she say that, knowing it was just impossible? What was going on in her mind? The most painful



'Masters of Disguise, all'

When they came for the Athletic Day Dinner

GEORGE MATHEW

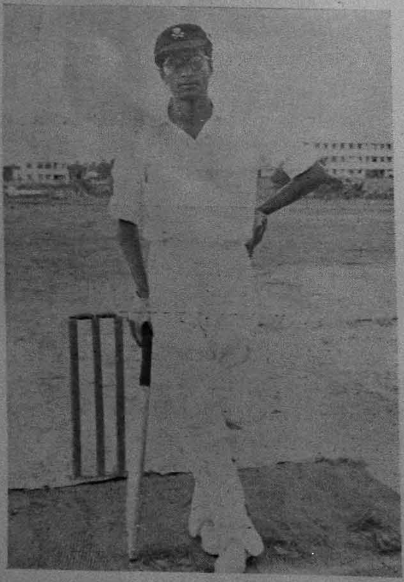


Represented the University in Foot Ball

DR. SUKUMARAN P.

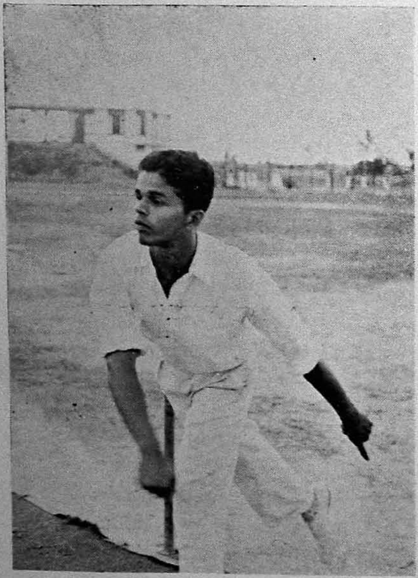
Captained the State Table Tennis Team.

DR. C. V. KORHA



Represented Kerala in Cricket in the Ranji Trophy Tournaments.

KARUNAKARAN



Bowled his way into the South Zone team.

thing to think of was that she had, either deliberately or under a compulsion only she knew, veiled something from me. What was it?

To these querries that baffled me came an answer after a week of tortures and unhappiness. Her note was as follows.

My dear Ajay.

Ever since that day I have been a most restless creature. I could not dare to startle you with that news, for I did not want to tumble down your happiness. To-day I thought of it all with a cool head, and decided to write this letter. Imagine you in a dark world of mystery around you, for my words looked so unnatural. Secondly, one day or the other you must come to know of it. They say I am suffering from T. B. I have submitted myself to nature rather cheerfully and let it not worry you.

Yours affectionately,
MALA.

I had lived in a world of imagination hitherto a world to come and I still continued to live in it. I set to work hard with a view to turning this imagination into reality. The letter had pointed out to me a direction in which I had to proceed, it was like a light-house for the ship, of which I was the pilot. Everthing manoeuvered this huge ship towards the destination, although I knew it would have to combat many *storms* and *tide* over adversity. Huge, cruel waves dashed and crashed against it and I felt a divine satisfaction in the task allotted to me, for it elevated my happiness. I rebelled against nature in this respect and indeed my victory was hard-won. The years of happiness at last rewarded my efforts and I consider even a life of struggle is worth living. The light cannot be appreciated unless there is darkness for its contrast and happiness unless there is gloom.

When the weather is wet, we must not fret,
When the weather is dry, we must not cry,
When the weather is warm, we must not storm,
But be thankful whatever the weather.

—*Anon.*

*Nuclear Weapons and Posterity

M. ARAVINDA BABU, B. Sc., First Year M. B., B. S.

The whole world is committing suicide. It may sound a startling paradox, but it is no more paradoxical. when we ponder over the status quo. Now, we have a deteriorated world which is constantly under the tension of war hysteria, which waxes and wanes as the cold war between the high powers becomes intense at one time and then relaxed. Every man with a normal sense and reflective mood will feel suffocated in the depressed atmosphere of the present world, where all the nobler and humane values of life are raped and seduced, and the radicated hunger for power reigns supreme.

Now, the war between two nations, in a plain sense, has become a competition between them to see which of them will come out first with a universal - slaughter - machine! The nobility of humanity is sooted with the insatiable ambition to capture authority. With a deep sigh, putting together the ruins and remains of our exploded past, we often remember. "The Golden Rule of the Tribe", which we will be fortunate to see if we turn our eyes to the early pages of history of human progress. "Each for All and All for Each". But times have changed, the never-ending vista of human progress has now become slippery, due to an overgrowth of mossy weeds of hatred and thirst for power; proceeding through this path—blame me not if my words are a little pessimistic - humanity may topple down at anytime; once fallen there will be no "good - angel" to rehabilitate it. It needs no Aristottle or Plato to make this statement—just common sense.

Nuclear weapons are now a nightmare. Everyman with a heart tinged with humane qualities, is struck with fear when he takes a protracted rumination over the imminent calamities, which these notorious weapons have the capacity to give birth to. I think, perhaps, the dangers are even more fierce—sans imagination! When the nations, which have gone mad with hatred and revenge, turn this world into a lunatic asylum, we remember the words of Christ—"They themselves do not know what they are doing".

At 5.30 a. m., July 16, 1945, the skies over the desertlands of New Mexico were rent by a thunderlike explosion. Its dazzling light was brighter than the sun that shines over the desert, and the heat liberated melted the sandrocks which flowed together. A cloud of dust and debris sprang from the desert and seethed high into the sky. Miles away a group of scientists were watching this explosion, behind a heavy barricade. No doubt, their attempt was a success; the result of which is that man entered into the atomic age for the first time. The scientists who took part in the experiment, were probably unaware of the full significance of the incident. Scientists indulge in these experiments for their intellectual satisfaction

* The Prize-winning essay in the Essay Competition held by the College Association in connection with the College Day.

and mental recreation; they often fail to look at these attempts from an ordinary man's standpoint. The parody addressed to Huxley by Miss Kendall comes to mind:

Primroses by the river's brim
Dicotyledons were to him
And they were nothing more.

As Sarton says "The most ominous conflict of our time is the difference of opinion, of outlook between men of letters, historians, philosophers, the so-called humanists, on the one side, and scientists on the other".

Reports from the various parts of the world have it that the after effects of using nuclear weapons are notoriously terrific. The radio active particles released to the open atmosphere, contaminate it, the bad effects of which are manifold:- it is true that the health of present population is degraded by it, even more pitiful is the truth that it affects the posterity.

In the case of most of the victims of Japanese bombings who escaped being killed by the heat blast, it was detected later, the tissues of bone—marrow were affected. The body defences against bacterial invasion are weakened. The lining of throat, lungs and intestine ulcerate, as the omnipresent bacteria invade them. A good number of the more belated A-bomb deaths were due to this. In these cases, there was a tendency for the skin, and the lining of lungs and intestine for widespread pin-point bleeding.

Three hours after the explosion at Bikni in March 1954, the fishermen of the 'Fortunate Dragon' were examined by Japanese Physicians. They were deficient in white cells and platelets. The cell replacement rate was also seen to be lowered.

One of the ill effects attributed to the usage of nuclear weapons is the causation of sterility. Another is the increase of sensitiveness to diseases; many of them being inheritable. The first statement is open to doubt, acrimonious debate and discussion, yet recent investigations confirm it. So, I think, if the open-air experiments with nuclear weapons, as well as their usage in war, continue further for an appreciable period, there will come a time, when there will be no relationship between nuclear weapons and posterity—simply because the latter will be lacking entirely!!

The production of inheritable diseases is one of the invariable and unavoidable effects. For the sin of one generation, the punishment goes to the rising generations! To do the sin and then to watch a part of the punishment going to the succeeding generation, is cowardice - mean cowardice! If one is callous enough to do a sin, one should be courageous to face the whole punishment also. If one cannot prevent a part of the punishment going to the successors, morality and manly behaviour demand that, one should put an end to the sin itself.

If we were in a generation, which is succeeding a generation of nuclear activity, we ourselves might have known the ill effects of it, we ourselves might have witnessed the calamities and catastrophies to which humanity is pushed in. But, the fact is that none of us will do it. Yet, we want our posterity to like it! Impudent, impertinent and illogical!!!

Man who looks back with extreme pride and profound satisfaction on his achieve-

ments, has gained nothing nobler than those achieved by his ancestors, who lived in jungles, on fruits and roots. But the historians call them 'Barbarians', forgetting for the time being, that it is we ourselves who are the barbarians, in whose heart there is no element of humanity, in whose eyes there is no tear of pity, on whose lips there is no smile of favour, and on whose forehead there are no wrinkles of thought.

Every man wishes to make his world an El Dorado, or an Utopia. But, what these lotus-eaters do, is contrary to what they exactly want to do. They preach the Gospel of Peace and proclaim "War is suicidal". It is a truth often spoken, but always forgotten.

"Almost every man will stand against adversities. If you really want to know a person, give him power". Now, man is entrusted with a great power. We, now, really do know him, by what he is doing with it. With lying lips and spying eyes, man is still looking around for a deadlier weapon to destroy his fellowmen, and then, his own children!!

In this press - button - age - gone - mad, there is no safety for humanity. How beautiful will be the world, where the lilies bloom, the dew-drops shining like pearls and the ripples of the pool singing hymns to the Creator, - all in an atmosphere uncontaminated with nuclear weapons!

National sovereignty is really a menace to human survival. We are at the threshold of a new age. As never before, the fate of mankind depends on whether scientists recognize their responsibilities to citizens and citizens recognize the potentialities of science for good and evil. The ONLY panacea is here - "abolishment of nuclear weapons".

As it is customary to end such articles with a note of optimism, I also say, (with my own secret suspicions regarding it), - "In the nearest future there will come a time, when peace and prosperity will prevail over war and poverty, when good will rule over evil and God over Devil, and when Man will be led by reason and not by instinct".

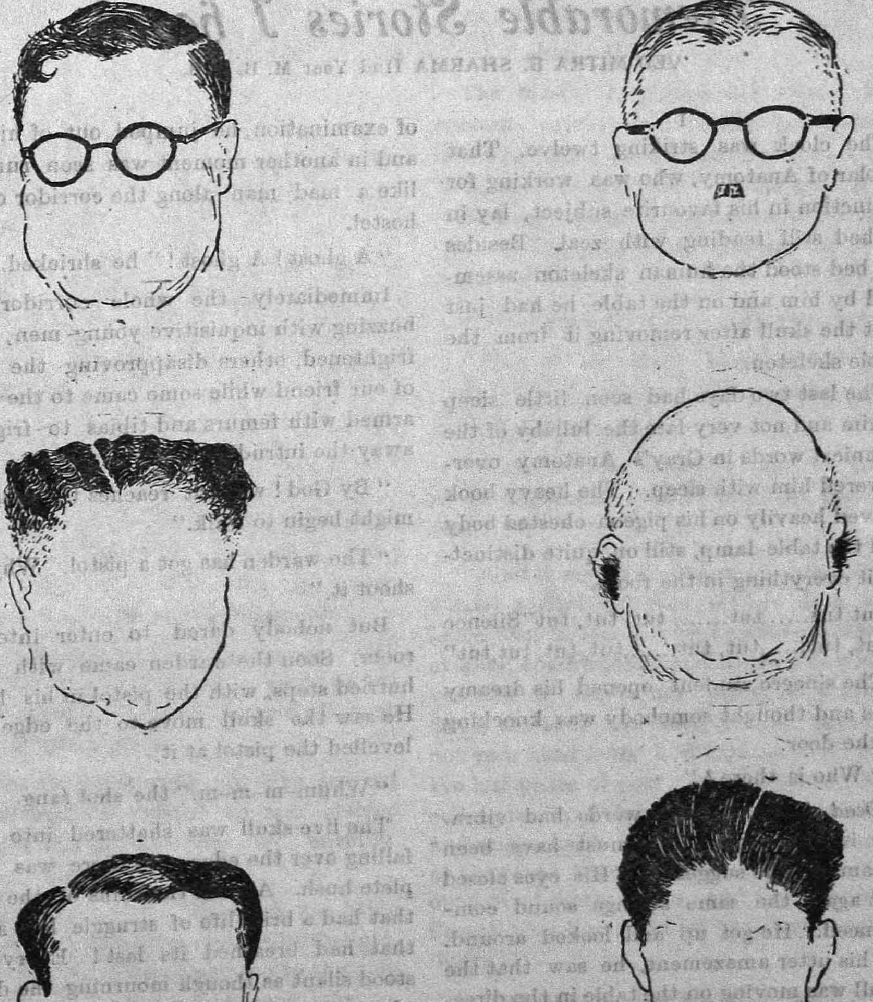
Henceforth, we are partners in a common heritage of prosperity, or in a common grave.

"Want to have a baby," said a Japanese woman to the Indian doctor.

He asked her several questions, then instructed her to take off her clothes, lie on the table and cover herself with the sheet. "I'll be back in a few moments." he added, "and then we'll see if you can have a baby."

"No, no," she objected strenuously, "want to have Japanese baby.

The Artist's View Point



G. B. S.

Memorable Stories I heard

VED MITRA B. SHARMA IInd Year M. B. B. S.

I

The clock was striking twelve. That scholar of Anatomy, who was working for distinction in his favourite subject, lay in his bed still reading with zeal. Besides the bed stood the human skeleton assembled by him and on the table he had just kept the skull after removing it from the whole skeleton.

The last two days had seen little sleep in him and not very late the lullaby of the technical words in Gray's Anatomy overpowered him with sleep. The heavy book heaved heavily on his pigeon-chested body and the table-lamp, still on, quite distinctly lit everything in the room.

"Tut tut..... tut......, tut, tut, tut" Silence "Tut, tut......tut, tut......,tut, tut, tut,tut"

The sincere student opened his dreamy eyes and thought somebody was knocking at the door.

"Who is there?"

Dead silence, after his words had vibrated in the room. "I must have been dreaming," he suggested. His eyes closed but again the same strange sound commenced. He got up and looked around. To his utter amazement, he saw that the skull was moving on the table in the direction of the incomplete human skeleton, as if it did not wish to continue to be lonely and segregated. The sound produced suggested its protest.

All this he saw in a split second. Unable to divine this peculiar phenomenon, especially after a dream of ghosts that usually haunt the student during the days of examination, he jumped out of his bed and in another moment was seen running like a mad man along the corridor of the hostel.

"A ghost! A ghost!" he shrieked.

Immediately the whole corridor was buzzing with inquisitive young men, some frightened, others disapproving the folly of our friend while some came to the room armed with femurs and tibias to frighten away the intruding object.

"By God! when it reaches the head, it might begin to walk."

"The warden has got a pistol. Why not shoot it."

But nobody dared to enter into the room. Soon the warden came with long, hurried steps, with the pistol in his hand. He saw the skull move to the edge and levelled the pistol at it.

"Whum-m-m-m." the shot rang.

The live skull was shattered into bits, falling over the edge, and there was complete hush. Amidst the ruins of the skull that had a brief life of struggle lay a rat that had breathed its last! Everybody stood silent as though mourning the death of a hero.

II

A young man had been facing a great problem for a couple of days he had dismissed his servant after discovering his acts of dishonesty, but had failed to get a substitute despite his efforts. He was thinking as to what he should do when a knock was heard at the door.

"What do you want?" he asked the robust man that stood before him.

"I understand you require the service of a man."

"Well, what are your terms?"

The robust man gently said, "Very, very simple, sir. I do not want any payment for the work I will do."

An expression of incomprehension showed on the future master's face.

"Secondly," the servant continued, "you may allot to me as much work as you possibly can".

A meekish smile lit the same face but before anything could be said, the servant went on.

"Thirdly I shall be at liberty to use my time in whatever manner I like, if no work is allotted to me." He laid particular stress on the word "whatever".

The sanity of the strange person with strange terms of service was doubted but a little interview proved beyond all such doubtful speculation.

Before the clock rang six, the servant had knocked the master up and started arranging the articles that lay untidily. scattered here and there.

"What next, Sir?" The work was being demanded as though it was his birth-right. The master smiled and pointed to the cobwebs who had long ago become the inmates of the room. While the servant sincerely did his work, the master could not help smiling with admiration, and enjoying the breakfast.

"Finished. What more?"

The master scratched his head. The servant waited for orders but getting none, he took a chair, dashed against the floor, shattering into atoms. He kicked at table that supported the unfinished breakfast and the cups and saucers rolled to destruction.

"What are you doing? Are you mad?"

"Excuse, me, sir," said the servant cooly, "I am doing nothing more than what my terms permit."

"What is your name? come to your sense, otherwise I shall have to dismiss you."

"Mind is my name and your companion I shall remain as long as life does not leave you. Either use me to create a world of bliss, complacency and heavenly achievements or leave me alone to tumble down all that has been yours. Scratch not your head least I should scratch out the last phase of your very existence. My colleagues have elevated some to enviable and unspeakable heights while they have at the same time pushed some into the oven of adultery, infamy and bruitishness. Search your heart and let me know your desire!"

Indeed, true are the words of mind, and that is why they say an idle mind is a devil's workshop.

Over a cup of tea

M. J. KURUVILLA Final Year M. B. B. S.

I had been led into a strange world, quite unawares and just accidentally when I entered a lady's apartment, a little late in the night, all alone and she in her bed and in sweet reverie – an El Derado to the imagination. Promptly she got up. I was absolutely denerved. I did not know what to do and what not to. Between me and my reader – in her cabin she was so elegant and radiant that I missed myself amidst that spellbound situation–all too short. I retired to my room. Hung back into my easy chair, calm and collected, attempted at a recapitulation of what has happened and why I of all people (to me I am quite bold) was so perturbed.... ... ... The mysteries and marvels of nature. The beauties of plants. The dramatic secrets of aquatic life. The love and courtship of animals. The intelligence of birds. The talisman that binds man and woman ... ...

A million thoughts flashed. All crowded and none distinct. Slowly I woke up from my stupor. Why is it that the poets are so much enamoured of feminine charm and pouring forth their melody ? I could not quite well reconcile. If only you have the mind, the whole nature will unfold itself and you will at once realise how prejudices and preconceived concepts can influence clear thinking and correct judgement.

We have hundreds of domestic creatures to tell us the truth and teach us the right thing. The cock and the hen. What a contrast ! The red comb and the enchanting plume announce his grandeur and dignity. Might and energy – they are his. Yet he follows his lady love in all earnestness and sincerity of purpose than probably we endowed with all the so called intelligence and emotion. We too often accuse him with polygamy and immorality. However let us not forget our own past. Morality is only that has come to stay in society in spite of time. Now let us have a look at another bird, the parrot in our household. Here also the male stands apart and higher up. The beautiful necklace and the brilliant plumage mark him out. Have not you eyes my dear reader ?

There is nothing different in the animal world too. The masculine beauty is unquestionable. The branched and beautiful horn of the deer declares its masculinity. The dog and the bitch, the bull and the cow – all offer concurrent testimony for male charm.

The plant world has the same story to repeat – the story of masculine supremacy and beauty. We will inspect only one plant in our garden, the rose the king – or the queen if you like – among them. What is his message ? Ever thought a flower as a society where young men and women meet, marry and mate, all to perpetuate their kind. The petals, they are all accessories their role not essential or substantial. Who attracts us most ? The young gay " Stay–men" centrally placed emiting an incense so sweet, and a show off so delightful that we pause in a rapture and admire nature "style"ish Ladies lie low and have nothing to present us.

Matrimonial

In to this Universe,
and Why not knowing
Nor Whence, like water
willy nilly flowing
And out of it, as wind
along the waste
I know not Whither,
willy nilly blowing

(Omarkhayyam)

3 0 APR 1957

Our Best Wishes to the Newly Wed.

Sry. Radhamma D. and Mr. Pavithran

Mrs. & Dr. M. Balaraman Nair

Mrs. & Dr. M. Sukumaran

Mrs. & Dr. Jayasimhan

Sry. Latha Devi and Mr. Hrishikesan

Mrs. & Dr. C. M. Francis

Mrs. & Mr. P. B. Jose Samson

Mrs. & Dr. P. J. Joseph

Mrs. & Mr. T. C. Joseph

Mrs. & Dr. Mathew M. Illickal.

A stray philanderer might defend and say that this beauty and charm of masculine form is seen only in the lower strata of life. But a real student of Darwin is sure to retort. Look at the worms and the spiders, the male is insignificant and is only an accessory to the all imposing and all important female. Unfortunately for the female world as the wheel of evolution turns, they are receding into the back ground becoming smaller in all their dimensions, probably slowly, yet definitely steadily. No doubt side by side with this assumption of masculine importance, charm is also transfered from the female.

... ... Yet what was there in that lady's apartment, a little late in the night, all alone, she in her bed and in sweet reverie – I never dare say any man has a millionth of her charm ! And who can say what she has to, about me ?

Live the life through
Inspired by lovely hope
Lisping in numbers true
Yielding ne'er to passions rude.

Doctor to a pregnant woman — " Madam, the Insurance Policy would pay only for actual sickness and accidents."

She—"This was an accident."

From a Leper Asylum

K M. JOSEPH, Final Year M. B. B. S.

" You are all right – complete cure – you can go home " said the doctor.

" Go home ! " Asked the man. A leper seldom dreams of going home.

" You mean - you don't have a home?"
" I had one "

" Father, mother, brothers "
" A brother "

" Aren't you damn happy over your recovery. How glad will be your blood brother to see you, to welcome you, to embrace you."

There was a pause. The man was thoughtful. A tear peeped through his eyelids and disappeared instantly.

" Would a leper be admitted into a house ? " He faltered " " Would relatives own a leper."

" But you are no more a leper. I give you a certificate. I declare to the world that you are a robust young man as healthy as Mr. India." The doctor beamed with joy. He was happy over the complete cure of his patient.

" Sir once a thief always one. Isn't it so ? " His voice was steady.

" Not so my young chap – go home. Yes. You must go home ".

He was discharged from the asylum. Its doors were shut against him. Behind him stood its walls like a row of impregnable rocks. A sense of some irreparable loss gripped his soul. A thick blanket of gloom seemed to envelop his being.

Memories of the past sweet as remembered kisses after death, rolled through his mind. He had a past that bristled with unfulfilled hopes and unexperienced bliss. Tears, idle tears rose in his heart and gathered in his eyes on surveying his past and on thinking of days that were no more. He loved a girl with all his heart. She was a nymph to his adolescent fancy - a nymph that smiled with the morn and danced on the waves of warbling brooks. To her, thoughts of him were like a shower of honeyed flowers. His smile paved the path of her life with pearls and emeralds. She was his life, the light of his vision. To him, her voice was as resonant as the music of the spheres. But :

It came like a bolt from the blue. A few patches were visible here and there on his body. He was about to ignore them when a doctor advised him to join a leper asylum. What did it mean ? A life led within the four walls of an asylum. He was astounded, stunned like an innocent man condemned to death. Death, instantaneous death. How blissful it was when compared with a life of torture. His was going to be a death in life or life in death. To him, the morn would no longer appear on the eastern hill in russet mantle clad. He was leaving behind him once for all, the world of lispings, ringing laughter, sweet caresses and mad embraces. He was falling from the lofty summits of joy to the deep dungeons of despair.

She ought to have embalmed his bleeding heart. Friends and relatives, should

have cheered and consoled him. But every face was dark. Not a ray of hope emanated from anywhere. Light seemed to have vanished from beaming faces. Song seemed to have deserted the golden strings of voices. Scorn, contempt, hatred, they greeted him. Pity did not come forth nor did sympathy. She, his beloved stared at him. She fled his presence. She who was to be the partner of his life, she who had solemnly undertaken to share all his joys and tears, shut her eyes against him, turned a deaf ear to his voice. That was the decisive blow. The magnificant structure erected by his fancy crumbled down leaving a heap of debris on his broken heart.

Were they to be blamed? Life is given to man to live. Could he ruin it? He could, but he should not. She was yet a blossoming bud. Bees were humming amorous ditties to her youthful ear. Her petals were to tremble as butterflies fluttered their wings. And why on earth should she reserve her honey for a moth caught by a tongue of flame.

The universe whirled around him with meteoric speed. He was hurled into a 'sea of despondency, boundless and motionless.'

A leper - freedom closes her portals against him. Humanity shuts its doors against him. He is an enemy of mankind. He is a rabid dog driven away by civilized society and stoned to death by barbarians. A kennel with all its filth and dirt would be this asylum, he thought. Hath a leper eyes, flesh, blood. Can he smile, laugh, leap or dance with joy. Oh-no-a leper should not see the blue firmament studded with glittering stars. All those sweet emotions, that flesh is heir to, should not surge in his heart. It should be a life of anguish, sighs and tears—of thoughts half experienced and words half expressed. Yes—it was *life in Death or Death in life.*

He was admitted into a leper asylum. A community of men and women carries on its life within those walls. A life is lived, humble and moderate far from the ignoble strife of the madding crowd. So he was mistaken. His fears were unfounded. His suspicions were baseless. His conception about the life in the asylum was erroneous, far from the truth. It was a surprise, an agreeable surprise to him to realize that the sad music of humanity reverberated within those walls embalming the bleeding heart and cheering the depressed soul. Heart knows heart—and pain sympathises with pain. The inhabitants of the place laughed at misery, they gibed at the sword of Democles hung over their heads.

A host of men and women—some without hands—some without legs—some are blind. There are deep furrows wet with pus and blood on their body—furrows dug by the iron yoke of fate. But it was a classless society. Racialism or conflicts of ideologies had not broken their world into narrow strips of land. All those for which Prince Hamlet had a horror, the pangs of despired love or the insolence of office did not afflict them. Perhaps man has to lose his life in order to gain it. Old men and women, youths and children—they carry on a desperate war with the greatest enemy of mankind, and they stand under one standard. Under the bludgeonings of chance, their head is bloody but unbowed.

They too have their festivities and

feasts. They are denied the right to live among their brethren in the vast world outside. They are not to know life or love. But they lead a contented life, a happy life complete in itself, wanting nothing that is not its own. They continue to be human-beings—men and women with bones and marrow with flesh and blood. He became one among them, one with them. It was like the shore of the Sirens or the land of lotos eaters. From the bovine of its cavern no traveller ever returns.

A gifted artist he was given a quill, colours, and canvass. And he painted landscapes, the fleecy clouds penned in the fold of the blue sky, the rocks that suck the udder of the moonlit night, the brooks that play violin to the song of the nightingale. These paintings soothened and caressed many an injured heart. They decked the reading room of the asylum. Visitors praised his skill, his talents. But he was elated most when the secretary of the female patients congratulated him. Again a woman was entering into the drama of his life—perhaps it was going to be another tragedy. But he was not afraid of it. They got acquainted and acquaintance ripened into love.

It was not the wild love of a Romeo for a Juliet, nor the jealous love of an Othello for a Desdemona. It was love pure and deep-serene and calm like a river that wound its way through an expansive plain. Her voice was like lullaby to him. Her presence was like twilight rich with the glimmers of the dying day. His heart was a tender plant withered in the summer of unrequited love and uprooted by the winter wind of gross ingratitude. Her words, her looks, were like rain drops to him. Once again that plant sent forth its shoots,

They used to meet in the reading room. As they talked misery that hung over them like a sheet of mist melted off. These moments were precious, invaluable. Night kept them apart. But night or thick walls could do them little harm. They spent nights, dreaming dreams and seeing visions of their union. Once again the morn was rosy and the land was donned in a verdurous robe. It was then that the doctor said "you can go home ?"

He must go home. Which is his home ? He is to exult over his recovery. He is to mount some stupendous cliff and standing on its top declare to the whole world that he was not a leper, but a MAN. He must return to the living world leaving behind him that palace of circe. You may say all this. But he was sad. He had become the minion of melancholy. What was he to leave behind him—a throbbing heart—a heart that more precious to him than all the priceless jewels that adorn the deep. And what did she say ? 'go home' 'go home' but which is his home ? She wants him to live to get married to beget children and to forget her. Could a woman ever say so—ever say so.

His feet led him to his brothers house, his blood brothers house. They were from the same loin. But the face of the brother grew pale at his sight. Perhaps he might have mistaken him for a ghost.

" Bro : Oh it's me. it's me "

He approached his brother, but his brother stepped back.

He didn't say anything.

"Oh, it's me, it's me, your own bro."

Suddenly the expression on his face changed. It glowed red hot.

"Get-away" he shouted.

"I am discharged. I am no more a leper."

"Get away."

"Here is the certificate."

"Get away—you've come to ruin me and all that is mine."

Yes he had come to ruin all that is his brother—his brothers wife and children. They are his, but not he. Not he. Its but a fibre that binds man to man. A shirk here or there and that fine fibre breaks and you are no more your fathers son, you are no more your wife's husband.

A few days he roamed aimlessly. Sediments of hatred seemed to have settled down on earth and set a rock on humanity. Where should he go? and why should he go? The doctor asked him to go home. But which is his home?

And he met the girl who left him. She was standing in front of her house with her child. He looked at her—looked at her full in the face. It seemed that she was benumbed.

He asked her "Do you remember me?" There was no reply.

"Don't you remember me—Yes I am alive. I am healthy and I have returned."

There was a scream. She ran back to her house crying "A leper, a leper, drive him off."

Yes, that was it. That was all. Once a thief for ever a thief. Once a leper for ever a leper. Once your brother for ever—no—the rule fails. It is not to be applied indiscriminately. He burst out into laughter. That laughter was devastating, more devastating than atom bombs. The world had forgotten him—had ranked him with the dead. You weep over a man who is dead. But if he comes back from among the dead, you will drive him off. He had the certificate with him. The world declares him to be a leper and can a sheet of paper take arms against the multitude. Penniless, friendless, forsaken and forlorn he was to wander through the world and what was his guilt?

In the silence of the night he got into the leper asylum. All was still and quite. There was here the peace and bliss of Elysium. You may say—he was once again sliding into the ditch of death. No. He had gone there to drink the water of life. He slept in the asylum with a dying leper and before morn got out from the place.

A few weeks passed. Carefully avoiding public places of resort, treading paths unfrequented and regaling himself on crusts of bread he lived.

And that fine morning he boldly stepped into the asylum.

"Sir—examine me" he requested the doctor. He was examined and found to be a leper once again.

And now was his time to rejoice, to leap, to dance, and exult. His heart throbbed with inexpressible joy. Again he was in the midst of men and women, in the midst of people who though mutilated and deformed, yet retained the dignity of man and preserved the values of life. And he turned his footsteps to the reading room. He longed to meet the queen of his heart, to drink deep the honey that flowed from her lips. He wanted to tell her one thing—just one thing, that he had come back to his home.

Sixth College Day Celebrations
18th February 1957.

PRINCIPAL'S REPORT

Dr. T. K. RAMAN

Your Excellency, distinguished guests, ladies and gentlemen.

We are very grateful to Your Excellency for having consented to grace the occasion and be in our midst this evening,

This College Day is an important event in the history of the College. The first batch of 46 graduates has passed from this College, 25 in April and 21 in December 1956. We are very glad that Your Excellency the first Governor of Kerala, is here with us to congratulate the first batch of the new graduates and distribute the Medals and Prizes, especially the Medal for the first best outgoing student of the College, awarded by His Highness the Maharaja of Travancore.

This is the sixth College Day. The first was presided over by Dr. A. Ramaswami Mudaliar, Vice Chancellor of the Travancore University, the second by Dr. Alexander Flemming, the discoverer of Penicillin, the third by Dr. K. C. K. E. Raja, Special Officer for the All India Institute of Medical Sciences the fourth by Smt. Rajkumari Amrit Kaur, Union Minister of Health, and the fifth by Shri. K. Ramunni Menon, who is now the Adviser to the Governer of Kerala.

Dr. T. K. Raman continued as the Principal and Dr. N. Krishnan Tampi as the Vice Principal.

The number of admission has been increased to 100 this year. A free scholar from Malaya and another from Burma under the Government of India cultural scholarship scheme were also admitted this year. The strength of the College at the commencement of the year was 330 men and 116 women, a total of 446. The present strength is 424, of which 109 are women.

University Examinations.

The number of candidates appeared and passed together with the percentage of pass in the April-May and December examinations of 1956 are given below :

	April May 1956			*December 1956*		
	No. appeared	No. passed	Percentage	No. appeared	No. passed	Percentage
Ist M. B. B. S.						
Part I (Organic Chemistry)	11	10	99	86	51	59
Part II (Anatomy and Physiology)	16	8	53	87	51	58
Completed by passing Anatomy)	4	4	100	1	1	100

	No. appeared	No. passed	Percentage	No. appeared	No. passed	Percentage
do. Physiology	16	16	100	2	2	100
IInd M. B. B. S.						
Part I (Pharmacology)	20	23	82	63	57	90
Part II (Pathology including Bacteriology)	111	104	93	32	29	91
FINAL M. B. B. S.						
PART I						
Preventive Medicine	16	16	100	103	98	95
Ferensic Medicine	16	13	81	106	95	90
Ophthalmology	23	19	73	107	86	80
PART II						
Medicine	42	35	83	22	18	82
Surgery	42	35	83	22	11	50
Obstetrics & Gynaecology	42	31	74	26	22	85

Award of Medals.

1. Sri. Padmanabhaswami Medal—awarded to Sri. K. V. Krishnadas, the best outgoing student of the 1st batch.
2. Rugmini Rama Kurup Medal-awarded to Sry. R. Saraswathy Ammal, the best women student of the 1st batch.
3. Parikshit Maharaja of Cochin Medal-awarded to Sri. P. Manohar Kini.
4. Dr. Elayadath Achutha Menon Medal for Obstetrics and Gynaecology—awarded to Sri. E. A. Thomas.
5. Kunji Amma Gold Medal for Pediatrics—awarded to Sri. K. P. Ckandrasekhar.
6. Dr. Ambadi Krishna Menon Medal for Midwifery—awarded to Sri. K. V. Krishna Das.
7. Dr. Ambadi Krishna Menon Medal for Pathology—awarded to Sri. T. M. Jaykumar.
8. Dr. Ramakrishna Pillai Gold Medal—awarded to Sri. K. V. Krishna Das.

Staff.

Present staff consist of:

Professors	11	88
Associate Professors	5	
Junior Professors	2	
2nd grade Professors	5	
Assistant Professors	21	
Lecturers	5	
Demonstrators	23	
Tutors	16	

Bacteriological Assistant	1	
Sanitary Engineer	1	(part-time)
Entomologist	1	do.
Administrative staff	20	
Technical and Laboratory staff	52	
Subordinate staff	59	

The College Council had its regular meetings.

The problem of getting experienced teachers in the clinical and nonclinical

subjects continued this year also. With the passing out of our graduates, the position with regard to appointment of lecturers has eased and we have now 16 of our graduates in the staff of the College,

We are sorry that two of our Professors, Dr. C. Vareed and Dr. D. K. Sabhesan left us on the termination of their term of appointment. On the recommendation of the Indian Medical Council they were asked to continue but the offer was not accepted.

Dr. R. K. K. Thampan was appointed as Professor of Obstetrics and Gynaecology as successor to Dr. R. G. Krishnan, who left us before the expiry of his term to take up appointment as Dean of the Stanley Medical College, Madras. Dr. (Mrs) Mary Phillip was also appointed as Assistant Professor of Obstetries & Gynaecology during the year.

Dr. K. P. Ramachandran returned from training and joined the staff as Asst. Professor of Surgery (Anaesthesia), and Dr. G. S. Vamana Rao took charge as Asst. Professor of Surgery (Blood Bank). Drs. K. Ramachandran Pandalai and K. Thomas Mathew, who were awarded I. C. M. R./R.F. fellowships returned after their training.

The following have left for higher studies abroad and in India,

1. Dr. C. J. Mathew.
2. Dr. N. Rajan.
3. Dr. Abdul Rahiman Khan.
4. Dr. M. Radhakrishnan.

T. C. M. Assistance Programme.

The T. C. M. authorities in India have visited this institution twice during the year with regard to the supply of equipments and training of staff for our College. It is expected that their assistance will be forthcoming in the course of this year and we will be able to depute 2-3 candidates each year for higher training under this programme. We are very grateful to them for their kind help in this connection.

Inspection Commission.

The Inspectors of the Indian Medical Council inspected the courses of study and the examinations in all the subjects in May 1956 and have sent their report with their recommendations. Arrangements are being made for the implementation of the same and the matter is being placed before the March session of the Indian Medical Council for the recognition of the M. B. & B. S. degree of the Travancore University.

Working of the Departments.

Anatomy. The term of appointment of Dr. T V. Mathew has been extended for another year up to April 1957 and he continued to be in charge of the Department. New specimens have been added to the museum bringing total number of museum specimens to 291.

Papers published :-(1) " A case of gastroschisis with fusion of the lower limbs " has been published by Dr. T. V. Mathew and Dr. K. R. Pandalai in the Journal of the Anotomical Society of India, (Vol. V, 1956)

(2) " A Variation in the Insertion of the Tendon of Palmaris Longus muscle " by Dr. T. V. Mathew and Dr. K. R. Pandalai in press.

Physiology Dr. C.M. Francis was appointed as Associate Professor and took charge as head of the Department from 1-7-1956. Quiz programmes, seminars and symposia type of teaching were introduced during the year.

Biochemistry. Besides the regular teaching work in the Department, work on the

clinical investigation for the Collegiate hospitals continued. About 5,000 analyses have been conducted. Sri. G. Yegnanarayana Iyer continued his investigations on "Amino Acid Metabolism."

Preventive Medicine. The work in the Department continued as in the previous year. A Medico Social worker was added on to the staff of the Department. 49 students were given instruction in the regular Health Inspectors' Training course. The family care programmes, posting in the Health Unit and visits to Sanitary installation health centres, etc., were continued as in the previous year. The Social Service Group was running a weekly dispensary at Pallithura.

Pathology. The experiment in participative teaching is being continued. 56 autopsies were done–an increase of 13 over last year. The biopsy work for the State hospitals and other private hospitals recorded steady rise, and since November 1956 work for the hospitals in Malabar was also undertaken. The number of specimens studied was 2,010. In the Clinical laboratories the routine examinations of blood, urine, sputum, etc., were carried out during the year. 191 specimens were added to the museum bringing the total to 710.

The following problems are under investigation.

1. Electrophoretic study in cases of malnourished mothers and infants.
2. Electrophoretic study of blood proteins in various species – human, bovine, avian, amphibian, etc.
3. Electrophoretic study of blood proteins in other diseases.
4. Comparative study of the effects of of vegetable and animal fats on the blood vessels.
5. Thrombo-elastographic studies on normal blood.
6. Paper chromatographic studies–perfecting the technique.

The following papers were contributed:

Statistical analysis of carcinoma of the breast, Cancer Problem, and Cancer Diagnosis (by Dr. M. Thangavelu) and Illeocaecal intussusception (by Dr. V. Sumangalamma)

Pharmacology. The working of the department continued as usual. One more demonstrator was appointed to this department.

Bacteriology. Practical classes have been considerably modified and simple routine techniques done in the laboratory form the subject of experiments. The students themselves culture urine, motion, sputum, etc. The scope of their classes is under constant study and experimentation so as to create in them a live interest in the subject.

In the laboratory about 4,000 serological and cultural examinations in addition to microscopical examinations were conducted. There has been a steady and progressive increase in the work of the laboratory. The only serological reaction for venereal diseases done here is Kahn. The establishment of an up-to-date serology laboratory and trained staff for conducting the tests are the prime necessity. Studies are under way in the antigenic structure of influenza viruses and variation in vaccine viruses. The first strain of small-pox in Kerala was isolated and plans are under way to isolate more strains of small-pox so as to make further studies of the virus.

Forensic Medicine. The Professor of Pathology continued to be in charge of the

Department. A demonstrator and attender was appointed to this Department during the year. Arrangements are being made for a separate department of Forensic Medicine.

Clinical Departments.

Medicine. The teaching of Medicine has been carried with more emphasis on bed side teaching. Research has been conducted in Cardiology and Nutritional disorders by the Professor of Medicine, Dr. T. K. Raman. I. C. M. R. has granted permission to carry on research on goitre and electrophoretic pattern of proteins in collaboration with other departments.

Papers published by Dr. T. K. Raman and his assistants :

1. Cheyne Stocks respiration (Indian Heart Journal)
2. Heart in Typhoid Fever do,
3. Huge Ball Thrombus in Rt. Auricle do.

Surgery. The post of the Professor was vacant during the year and the Associate Professor and second Surgeon was in charge of the Department. Tutorial classes were held in regional surgery in addition to the regular posting for final year students. Investigation was started in vascular diseases and goitre during the year. Conferences of the surgical staff was held on four occasions during the year.

Obstetrics & Gynaecology. This Department is now engaged in research on Rh factor in pregnant women under the auspices of the I. C. M. R. This will be continued and the report submitted as soon as the work is over. Study of Adelptine, one of the hypotensive drugs in the treatment of toxaemias of pregnancy is being conducted and it is proceeding.

Special Departments.

The departments of Ophthalmology, Dermatology and Venereal diseases, Children's diseases, Tuberculosis, Radiology, Ottorhinolaryngology and Dental surgery attended to their specialities.

Library. Dr. R. Ananthanarayanan continued to be the officer in charge of the Library. 939 volumes have been added on to the library during the year. About 450 volumes are also expected to arrive before March 1957. The total number of books is 3818. We have purchased books to the value of Rs. 28,000 this year and the amount spent on current journals and back numbers amount to Rs. 15,500. Back numbers of journals worth Rs. 7,000 are expected shortly. The number of journals subscribed for has been increased to 128.

The greatest difficulty is the lack of space for storing books and for students to sit and read in comfort. A building for the library has become an urgent and inevitable necessity. Steps have already been taken in this respect and it is hoped that the present difficulty of accommodation can be overcome when the hall in the Administrative block is completed.

Medical College Association.

The Association was inaugurated by Shri. B. V. K. Menon. In connection with the U. N. Day celebrations elocution competitions were held and Sri. N. S. Venugopala Pillai and Sri. M. J. Kuruvilla won prizes. A debate on 'Love marriages are better than arranged marriages' was held and the motion was carried. The students took part in the Kerala Day celebrations. Dr. K. N. Pisharoti, Retd. Dean, Stanley Medical College, and Dr. Helen Taussig, International Cardiologist, were two of the eminent people who addressed the students. A Planning Forum was started this

year which was inaugurated by Shri. P. M. Mathew, Secretary to Government. The members were At Home to the new graduates of the College, at which the Archbishop of Trivandrum addressed the graduates. Two general body meetings were held during the year.

Arts Club. The inauguration of the Club was done by Shri. B. V. K. Menon. The Club took part in the Kerala Day celebrations and also contributed items of music orchestra and pantomine in connection with the 33rd All India Medical Conference. Under the auspices of the Club an entertainment programme of music and dance by famous artists from outside was presented.

Social Service Association.

The activities of this Association are carried out in cooperation with the Department of Preventive Medicine. The activities include social service in the Collegiate Hospitals, visits to homes in the neighbouring village and helping the poor in improving the sanitation of homes, maintenance of a nursery school for 32 children, common feeding in the evening for about 200 children, providing and running a children's playground, rendering medical advice and assistance in the rural area for which a mobile dispensary is run on Sundays, etc. Funds are collected from donations and exhibitions.

The Athletic Association

Our College won the intercollegate championship in hockey. For tennis singles and doubles for men and women, the College is the winner for three successive years. In the tennis tournament conducted on the Davis Cup lines our players are the winners for three years now. In intercollegiate table tennis for men our College won for the third time this year also and for women's event, won the championship. In the league tournament conducted by the State Cricket Association, the College held a leading position. For basket ball the College is the runner-up in the intercollegiate tournament for two years. Two students from the College were selected to represent the Kerala State Basket Ball, one student for tennis and another for table tennis. Four students were selected to represent the South Zone in the inter-zonal cricket match. They returned as sportsmen. Two students in Basket Ball, one in Tennis and one in Athletics represented the University. In all other events in the field of sports and games, our teams are maintaining a fairly high standard.

National Cadet Corps.

In addition to the usual training, the Medical Coy., took part in the following:

1. One Officer and six cadets participated in the combined cadre and Social Service Camp held at Ramapuram in May 1956.

2. One Officer and 55 cadets took part in the mock medical demonstration of evacuation of casualties held at Pangode during N. C. C. annual camp in January 1957.

3. One cadet of this Coy., was deputed to take part in the Republic Day Parade in New Delhi.

Distinguished Visitors.

Dr. Khanolkar of the Indian Cancer Research Centre, Drs. Timothy Baker and John C. Hume of the T. C. M., Dr. A. C. Ukil, President of the National Institute of Research of India, Dr. K. N. Pisharoti, Retd. Dean of the Stanley Medical College Madras, Dr. Helen B. Taussig, International Cardiologist, Dr. Dundas of the British Council and Nuffield Foundation, the

Prince of Bhavanagar, Members of the Visiting Canadian T. B. Team are among the distinguished visitors who visited the College during the year.

General.

The XXXIII All India Medical Conference was held in the College during the year and the student volunteers of the College have done excellent work in connection with the Conference and to the entire satisfaction to one and all.

Dr. T. K. Raman, Principal of the College, has been elected as a member of the All India Institute of Medical Sciences a rare and distinguished honour for the Kerala State, the University of Travancore, and the Medical College.

The following members of the staff attended the various All India Conferences held during the year.

Principal & The Professor of Obstetrics & Gynaecology	Annual Conference of the I. C. M. R. held at Mysore.
Professor of Pathology	Annual Conference of the Association of Pathologists held at Mysore.

Salary of Teachers.

In view of the low salary paid to the teachers, great difficulty is being experienced in getting trained and experienced persons in the teaching staff. The scale of pay suggested by the Centre for the teaching staff of the Medical Colleges, both clinical and nonclinical, may be taken up as early as possible. If this is not possible at least the scale of pay suggested by the University Grants Commission may be taken up.

We take this opportunity to thank Shri. P. S. Rao, your illustrious predecessor, for the keen interest he has taken in the Medical College. During his short stay here he has taken a personal interest in this institution and especially in setting right the problems of the Medical College. We hope Your Excellency will also take a personal interest in solving the problems of this College.

Conclusion.

I take this opportunity to thank all the members of the staff for their kind cooperation.

Lastly to the young graduates who have just passed out, I would advise them to keep themselves abreast of the recent advances in Medicine. "A stagnant pool stinks but running water is clear." It is not the amount of money that you get, it is not the social or official position which you may occupy is important; it is your character that counts. Never deviate from the path of truth. Remember the words of Mahatma Gandhi, Father of the Nation, "God is Truth, Truth is God." We are getting older, I say older because we are already old. The daily contact with the students keeps us young. This young College requires the experience of the old and the energy and enthusiasm of the younger generation We hope that you will rise up to the occasion and prove yourself to be worthy sons and daughters of India.

JAI HIND

3 0 APR 1957

Report of The Trivandrum Medical College Association 1956-57

It is with great pleasure that I place before you the report of the Trivandrum Medical College Association for the year 1956-57.

The elections for the various offices under the Association were conducted on 10th August 1956. The following were declared elected.

College Association

Vice President :	Sri N. Gopalakrishnan	— Final year
Secretary :	Sri T. K. Cherian	— Final year
Associate Secretary :	Smt. M. Sujatha Bai	— Second year
Class Representatives :		
	Sri K. K. Kumaradas	— Final year
	Smt. K. R. Ayesha Devi	— Fourth year
	Sri N. K. Sahadevan	— Third year
	Sri K. R. Harilal	— Second year
	Sri. K. V. Johny	— First year

Arts Club

Secretary :	Sri V. D. George	— Final year
Class Representatives :		
	Sri V. K. Sivasankaran, Sri P. Peethambaran	— Clinical classes
	Sri K. M. Raju, Smt. S. Madhuri	— Pre-clinical classes

Magazine Committee

Student Editor :	Sri C. B. C. Warrier	— Final year
Class Representatives :	Sri T. Jacob John, Smt. Sodar Sujatha	— Clinical classes
	Sri Ninan T. Mathew, Smt. S. Rachel	— Pre-clinical classes

Dr. M. Thangavelu continued as the Hon. Treasurer. Dr. Vincent D' Bayliss has been nominated as Staff Editor.

The activities of the year started with the Freshers' Social conducted by the last year's executive committee. The new Committee took charge on the 14th August '56, in time to celebrate the Independence Day on August 15th. Staff and students of the College paid homage to the National Flag and the Principal Prof. T. K. Raman delivered a short speech,

The Association as well as the Arts Club were inaugurated on 25th September '56. The function began with a garden party. Sri B. V. K. Menon, I. A. S. the then Chief Secretary to the Government of Travancore-Cochin State delivered the inaugural address. The function came to a close with the grand variety entertainments put up by the College Arts Club.

A General Body Meeting of the Association that met on 28th September '56 witnessed a tense hour, when we discussed the infringement of personal honour by a free press.

Dr. K. N. Pisharoti, Retd. Dean, Stanley Medical College, Madras addressed the members of the Association on 1st October '56.

A lively debate on the motion "Love marriages are better than arranged marriages" high-lighted the activities of this year. Staff and students enthusiastically took part in the discussion giving details of personal experiences, general inferences and psychological analysis. Eloquent and well-informed speakers put forth all the aspects of the subject both for and against the motion. The motion was carried.

On 20-10-1956 a general body meeting was convened to discuss the formation of the Medical College Co-operative Society. It was a necessity long felt and I am very glad to place on record that the Society has been registered and has already started functioning. The Association takes legitimate pride in organising the Society this year and wishes the society a healthy and prosperous future.

In connection with the U. N. Day, the U. N. Flag was hoisted on 24th October '56 by Prof. R. K. K. Thampan who in his natural eloquence elaborated the role played by the United Nations Organisation in maintaining international peace. In the evening there was a debate and Sri N. S. Venugopala Pillai (III yr.) and Sri M. J. Kuruvilla (Final year) won the prizes. This debate was unique in that the panel of judges was entirely constituted by students and that prizes were distributed on the spot. Sri N. S. Venugopala Pillai and Sri V. Balakrishnan (Final year) were selected to represent the Medical College, in the University Elocution competitions in connection with the U. N. Day Celebrations.

The Kerala State Day was a day of rejoicing and celebration in the college. No effort was spared to welcome the new State in a purely Malayalee style. At a public meeting held in the College Auditorium, Dr. K. Bhaskaran Nair D. Sc. (Member, Sahitya Academy) and Sri N. S. Venugopala Pillai spoke. In response to an invitation from the City Corporation the members of the Association took part with the gaily decorated college van in the procession conducted by them.

During the year under review a Planning Forum was constituted in the college with staff and student representatives. Sri P. M. Mathew I. A. S. Planning Secretary to the Government of Kerala inaugurated the Forum on 12-1-1957.

We had the proud privilege of listening to the eminent International Cardiologist, Dr. Helen Taussig on 20th January '57.

The secretary, Sri T. K. Cherian was nominated to represent the college in the Adhoc Committee of World University Service. Professor T. K. Raman, Princi-

pal and Ex. Officio President of our Association has introduced and kindly presented an official attire for the student president. I take this opportunity to thank him on behalf of the Association.

The Republic Day was celebrated with a Flag hoisting ceremony. Prof. T. V. Mathew hoisted the flag and delivered an impressive speech.

The staff and students of the college were At Home to the first batch of graduates from this college on 27th January '57. It was a colourful function which began with a garden party and the Graduates were led into the Auditorium in a procession. His Grace the Most Rev. Benedict Mar Gregorius, the Arch Bishop of Trivandrum addessed the new graduates. The meeting was followed by a music concert by the well known artists Smt. Kaviyoor Kevamma and Sri Trichur P. Radhakrishnan. The dance recital by the pupils of Smt. Thulasi Bai added glory to the glamour of the occasion.

The various competitions in connection with the College Day Celebrations were conducted during the first week of February and the following were the winners :-

I.	Extempore Speech : English	— Ist Prize	Sri N. S. Venugopala Pillai
		2nd ,,	Sri K. Reghunathan.
II.	Extempore Speech : Malayalam	— Ist ,,	Sri N. S. Venugopala Pillai
		2nd ,,	Sri. B. K. Hareendran Nair.
III.	English Essay Writing :	— Ist ,,	Sri Aravinda Babu
		— 2nd ,,	Sri Ved Mitra Sharma
IV.	Short Story Writing :	— Ist ,,	Sri Ved Mitra Sharma
		— 2nd ,,	Sri K. V. Balakrishnan
V.	General Knowledge Test :	— Ist ,,	Sri K. P. Balachandran
		— 2nd ,,	Sri C. R. Soman

The College Day was celebrated on 18th Feb. '57 with His Excellency Dr. Ramakrishna Rao the Governor of Kerala as the Chief Guest. The Tea Party was arranged on the college terrace in the buffae style. The meeting was followed by the Variety Entertainments staged by the College Arts Club. For the first time a mixed drama was staged in the college with both staff and students taking part,

We bade farewell to two of our staff members–Prof. N. Krishna Tampi and Dr. P. Kumaran Nair - both of the Preventive Medicine Department on 5th March '57. A Tea Party was arranged in their honour and Prof. R. Ananthanarayan an spoke on the occasion.

The pioneering efforts of the staff and students has been responsible for the successful performance of our activities. The whole-hearted co-operation from the various quarters has been hitherto unprecedented. I must thank everyone for the confidence put in us and for the sincere help. Special mention should be about the record-breaking contributions from the

staff. We are very grateful to all the members of the staff especially to our President and Treasurer who were always ready to help us. We hope the same spirit to perpetuate in future too. My friends who volunteered their services for the various functions deserve special mention. Their sincerity and unselfish hard labour went a long way in crowning our endeavours with success. Let me take this opportunity to thank them all.

The unanimity of this year's executive committee made my duties lighter and pleasant. My colleagues in the Committee were a pleasure to work with and I extend my heartfelt thanks to them also.

Wishing the Association all its due.

JAI HIND

T. K. CHERIAN,
Secretary.

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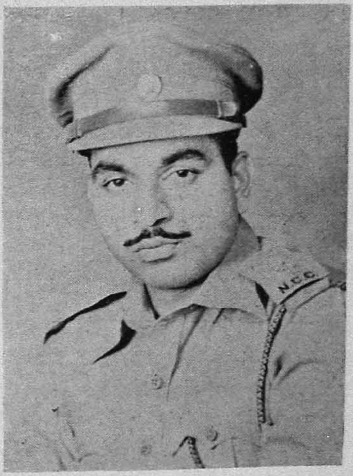
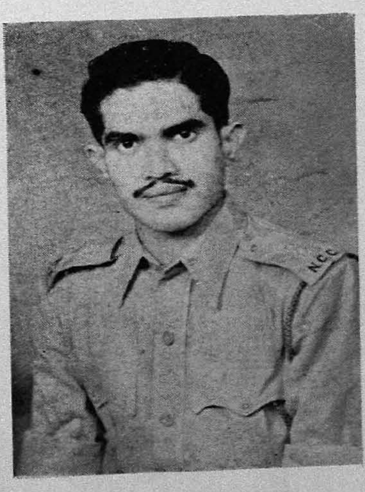
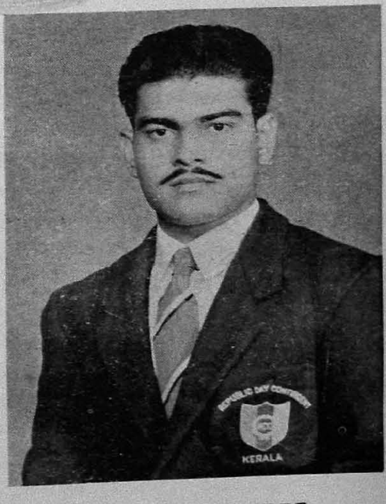
OFFICER COMMANDING



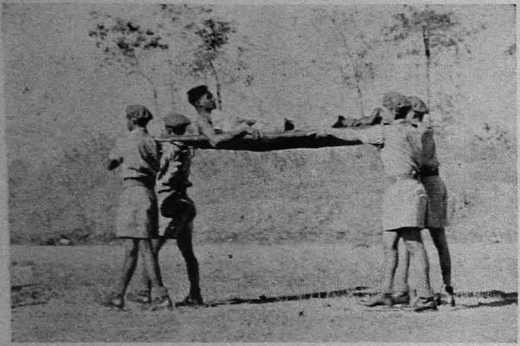
LT: DR. SATHYA DAS



LT: DR. MOHAN DAS



L/CPL. N. V. GEORGE
Represented Kerala in the Republic Day Parade at New Delhi.



Cadets of our Company when they gave a demonstration at Pangode, on casuality, Evacuation

Report of the 19th Kerala Medical Company, N. C. C.

This Coy. which was inaugurated by His Highness the Raj Pramukh of Travancore Cochin on 25th February 1956 completed one year of its existence on 25th February 1957. There were only 46 cadets in the rolls to start with. With the dawn of Kerala, 19th Travancore Medical Coy. has become 19th Kerala Medical Coy. and full strength of 60 cadets has reached.

The year was eventful to some extent. We have some thing to be proud of, and some thing to be lamented on. Six cadets and one officer took part in the combined Social Service Camp at Rama Puram and they turned out wonderful work. Their work was much appreciated by the Circle Commander and the people of the place. 54 cadets and one officer took part in the mock demonstration of evacuation of casualities from the battle front to the R. A. P. and A. D. S., at Pangode on 5th January 1957, for the benefit of the cadets who were at camp. Director of the N. C. C. Brigadiar Prem Chand was present to witness the demonstration. He was very much impressed by the performance and he congratulated the officer and the cadets for the same.

Two of our cadets Sergeant George Mathew and L/Cpl. N. V. George were selected to participate in the Republic Day parade at Delhi. But George Mathew was not able to proceed to Delhi on accout of examinations.

Coy. Sergeant Major Sambasivan stood first in the Pre-clinical Examination. In the field of sports again we have much to say. Cadet Verghese Paul annexed the Inter Collegiate Championship and he created new records in Hop-Step and Jump and 400 Meters Hurdles. Cadet Rajan Mathew stood first in Javaline throw. Sergeant George Mathew represented the University Team in football and hockey. L/Cpl. C. B. C. Warrier and Cadet Thomas Abraham, represented the University Basket Ball. Cadet K. G. Kottor took the State Championship in Tennis.

The uniform for the cadets are being completed. For want of uniforms we were not able to participate in the local N. C. C. Day celebrations and Republic Day Parade. For lack of funds we were not able to celebrate the Unit Raising Day. We are going to have our annual camp this year and also going to participate in the combined Social Service Cadre Camp.

As the Officer Commanding went on leave Lt. J. S. Satyadas was appointed as the Officiating Officer Commanding from November 11 to January 11.

I am sorry to report that the attendance of the cadets is not satisfactory. The system of examinations here, the practical classes going on till 4-45 pm, and various other activities of the college are also partially responsible for this only black mole. I hope in the coming years this defect will be rectified.

I must express my gratitude to our Principal Prof. T. K. Raman for his proper guidance and help. But for him N. C. C.

would't have grown like this in this Medical College. He is always a helping hand. I must also thank Circle Commander Lt. Col. C. J. Wates for he is very sympathetic and considerate with the affairs of this unit and is taking personal interest in the growth of this unit. Officer Commanding Capt. K. K. Agarwal deserves special congratulations for he has brought name for our unit in the Circle.

I am very proud of the cadets of this unit. They are the best in every field of activities. I am sure they will bring fame and name to this unit for years to come.

LT. J. S. SATYADAS
2/in Command
19th Kerala Medical Company

Sivaraams

FOR

PHOTOGRAPHS

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The Trivandrum Medical College Social Service Association

The members of the Executive Committee of this Association for the year 1956-'57.

Dr. T. K. Raman	– President
,, N. Krishnan Tampi	– Chairman
,, K. P. George	– Treasurer
,, R. Kesavan Nair	
,, K. Ponnamma	
Mr. Madhavan Pillai	
,, N. V. George	– Vice President
,, T. Raman	– Secretary
Miss K. K. Lina Bai	– Associate (Secretary)
Mr. A. Abdulsalam Miss Irene Rosalind	V Class Representative
Mr. J. K. Dhas Miss V. K. Anandavally	IV Class Representative
Mr. A. N. Das Miss K. Lalitha	III Class Representative
Mr. P. Sugathan Miss N. R. Jolly	II Class Representative
Mr. K. K. Damodaran Miss M. Kanakam	I Class Representative

The activities of the Social Service Association started in July 1956 after the election of the office bearers. Our association works chiefly in the hospitals, in the neighbouring villages and the rural area and in the coastal area near Veli (Pallithura).

In the hospitals (Sri Avittam Thirunal Hospital and Medical College Hospital) we distribute books, magazines and news papers to the patients. We also give cards and covers and help them in writing letters. We give financial help to the poor patients to go home after treatment. Our association supplied two loud speakers to the S. A. T. Hospital to be placed in the children's wards so that the children can enjoy the radio in the wards. We are extremely thankful to the Editors of "Mathrubhumi" and "Malayala Manorama" for their kind supply of the news papers to our association.

The Social Service Association of this Medical College maintain a Nursery School for 32 children at Ulloor, a village near this College. There is a trained and efficient teacher and an 'Aya' to look after the children. The children get a noon meal and milk at 3-30 P. M. Our thanks are due to Dr. Omana Cherian, for conducting a medical check-up of the children in the Nursery School and giving her efficient treatment and advices. We have full satisfaction to say that we could improve the health of the children very much.

We have organised a Children's Club for all children and it is functioning on all Sundays when they will get all facilities for conducting literary meetings, games and to develop their talents. There is a "Charka Class" at the end. Our students will give necessary guide and help to these children in the Children's Club.

A sewing class has been organised for girls and our lady students will take the class all Saturdays and Sundays.

Everyday in our milk distribution centre about 150 children are getting milk in the evening.

This year we celebrated "The Kerala Day" and the "Children's Day". On both these occasions we conducted sports and distributed prizes and sweets to the children.

The most important activity of our association is the Mobile Dispensary which is working in the rural and coastal area at Pallithura on all Sundays. About 600 patients attend our Clinic every Sunday. Since there is no medical help available in that area, some twelve miles away from the College, our work is highly appreciated by the Public and are given a healthy co-operation for the proper conduct of this Mobile Dispensary, Our heart felt thanks are due to various Medical firms - Glaxo Laboratories (India) Ltd., Lederle Laboratories India) Ltd., The Ramaraju Surgical Cotton Mills Ltd., Amalgamated Chemicals and Dyestuff Company Ltd, May and Baker Ltd, Standard Pharmaceutical Works Ltd Calcutta, etc. for their generous and valuable help by their samples and gifts and we hope that they will continue their helping hand.

Our hearty thanks are also due to all the members of the staff of the College and Collegiate hospitals for their advices and great service in various fields of activities of this Association. We are greatly indebted to Dr. N. Krishnan Tampi, Professor of Preventive Medicine, Medical College, who is the light and guide of our Association.

By our humble and simple efforts we have come in closer contacts with the suffering poor and their problems in the rural areas and they have given us full satisfaction and confidence in the future works. We earnestly wish a bright future for our Association.

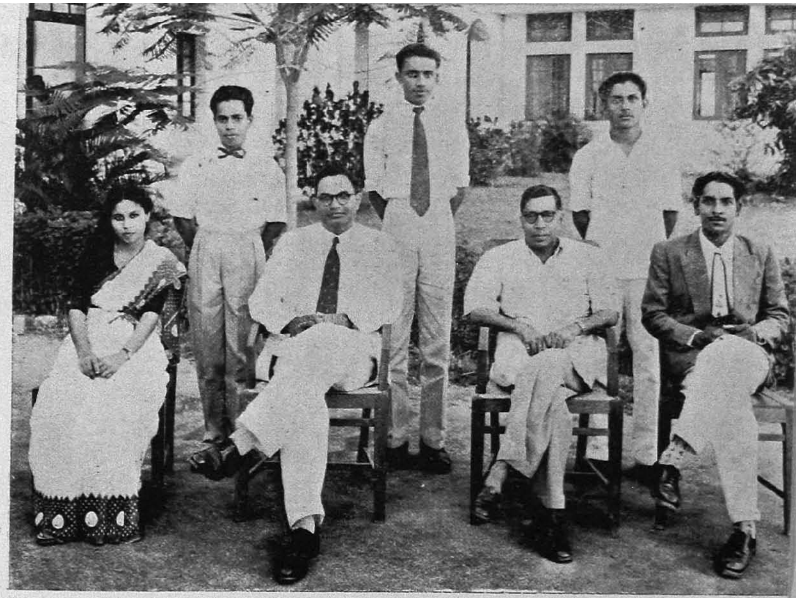
T. RAMAN,
Secretary.

The V. I. P. visiting the hospital came to the out patient minor theatre. Surgeon was performing a small operation.

V. I. P. - "What anaesthesia do you use, Doctor?"

Surgeon - "Oh! it's just local anaesthesia"

V. I. P. - "Very good! very good we must always encourage local things.



ARTS CLUB

Sitting: - (L to R) Miss S. Madhuri Devi; Dr. M. Thangavelu; (Hon. Treasurer) Dr. T. K. Raman (President Ex-Officio.) Mr. V. D. George (Secretary)

Standing: (L to R) Mr. Sivasankaran S., Mr. Rajoo K. M., Mr. Peethambaran P. (Representatives)

Team of Artists who enacted "Katha Nayika"

(Govindakrishna)

'KERALA MATHA'
Tableux

"Exchanging not only fish but eyes too"
Pantomime.

The half Vaidyan to treat the Semi crack

Trivandrum Medical College
Arts Club 1956 - '57

Elections for the office bearers for the current year were conducted and the Arts Club was formed with the following committee members.

Dr. T. K. Raman	President (Ex-officio)
Dr. M. Thangavelu	Hon. Treasurer
Mr. V. D. George	Secretary
Mr. Sivasankaran	Representative, Clinical class
Mr. P. Peethambaran	,, ,, ,,
Miss S. Madhuri Devi	,, Preclinical class
Mr. K. M. Raju	,, ,, ,,

Our Arts Club started functioning with the inauguration of its activities by Sri B. V. K. Menon, the then Chief Secretary to the Government of T. C. State on the evening of 25th September, 1956. The variety entertainment which followed was well appreciated by the audience and this encouraged us in our further activities.

We celebrated the "Kerala Day" and the occasion was high-lighted by a light entertainment programme of Kerala Songs by our veterans.

In connection with the entertainment programme for the XXXIII All India Medical Conference our Club contributed items of music, orchestra and pantomime on the 26th and 27th December, 1956 and we record with immense satisfaction that these were well received by delegates from all over India.

Under the auspices of the Club there was an entertainment programme on the occasion of the Reception to New Graduates. It included a light music concert by Smt. C. K. Revamma, and Sri Trichur P. Radhakrishnan accompanied by A. I. R. orchestra and Dance recitals by pupils of Smt. Thulasi Bai of 'Natana Vihar'. It deserves special mention that the programme was presented completely by eminent artistes from outside the College which enabled the members of our club to come into contact with these eminent professionals thereby paving new channels for a greater exertion of their innate talents. Our heartfelt thanks are due to the artistes of the day for their grand performance rendered free for the Arts Club.

In connection with the College Day Celebration, competitions in acting and music were conducted and the prizes were awarded to the winners by His Excellency The Governor of Kerala, Dr. B. Ramakrishna Rao, the chief guest for the College Day on 18th February, '57. A variety entertainment was put up by our members on the evening of the College Day, with His Excellency The Governor and other distinguished guests among the audience. A delightful pantomime "The Kerala Peasant Girl", the hilarious Malayalam -

hit "Asante Amali" and a shadow play "The Immortal Shadows" depicting the last days of Mahatma Gandhi followed. Our talented songsters accompanied by the college orchestra filled the gaps with enchanting melody. It is with great pride that we record the fact that for the first time in the history of our institution that the lady members of our Arts Club have broken their shackles of timidity and have come forward to act a mixed drama. We offer our deep gratitude and hearty congratulations to them. The members of the staff took active interest and participated in the presentation of the various items. We are thankful to them for their kind co-operation and able guidance which made our Arts Club to achieve the best in the attempt.

Thus our Arts Club has grown through yes another successful year packed with plenty of activities. Our Club has a good stock of undetected junior talents which I am sure will blaze brilliantly in future years with the incentives of the success of the present year widening the already achieved high horizons. I wish them every success.

V. D. GEORGE,
Secretary.

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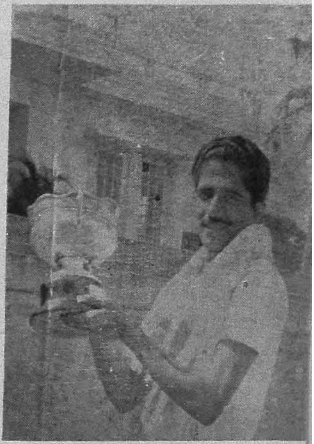
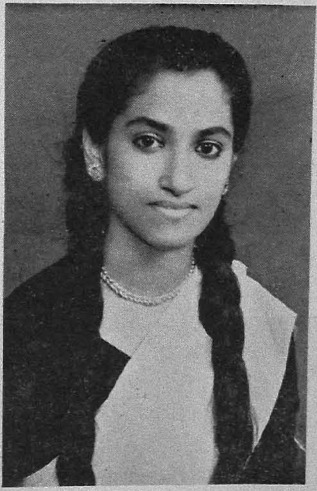
VERGHESE PAUL
Represented the University in Athletics
Inter Collegiate and State Athletic
Champion

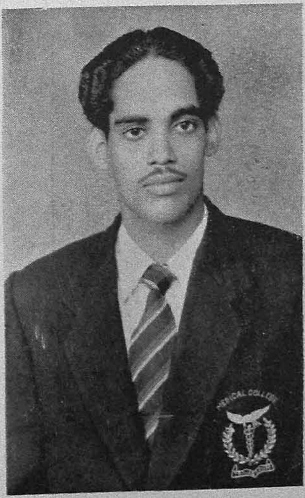
30 APR 1957
MADRAS



K. G. KOTTOOR
Champion Tennis player
of the State



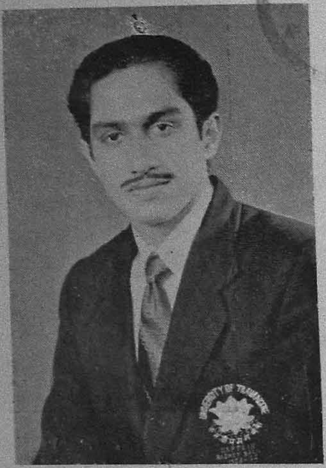
SANTHI KOVOOR



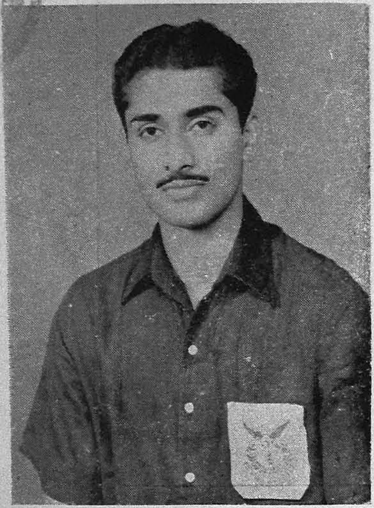
T. N. DAMODARAN NAMBEESAN

K. T. ANTONY

COLLEGE ATHLETIC CHAMPIONS

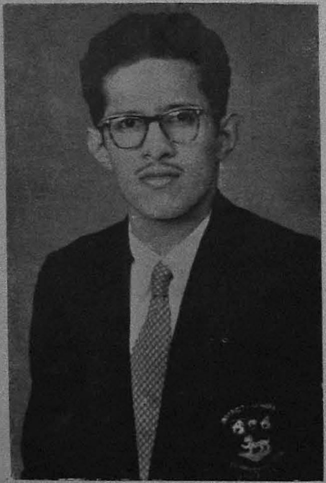


Mr. MATHEW ROY
Represented Kerala in the National Championships

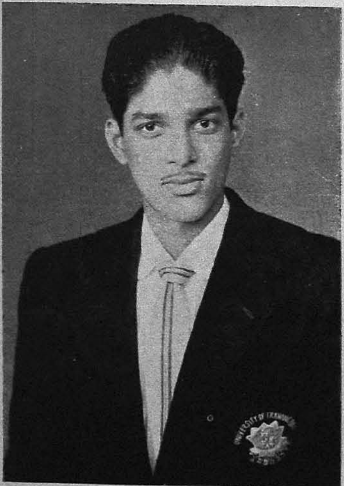


Mr. MATHEW THOMAS
Represented Kerala in the National Championships

Basket Ballers All



Mr. THOMAS ABRAHAM
Represented University



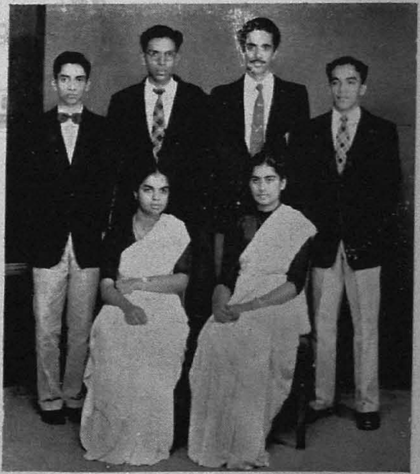
Mr. C. B. C. WARRIER
Represented University

TABLE TENNIS TEAM (INTER COLLEGIATE WINNERS)

Standing: (L to R) Mr. P. Sukumaran; Miss Indira Nair; Mr. Abraham; Miss. Essie D'Sasoon; Mr. Gopinathan Nair.
Sitting: (L to R) Miss Muryl Crowther; Mr. Mathew Thomas (Secretary); Dr. T. K. Raman (Principal); Mr. T. C. Rajan (Captain) Miss Chandrika Neelakantan.

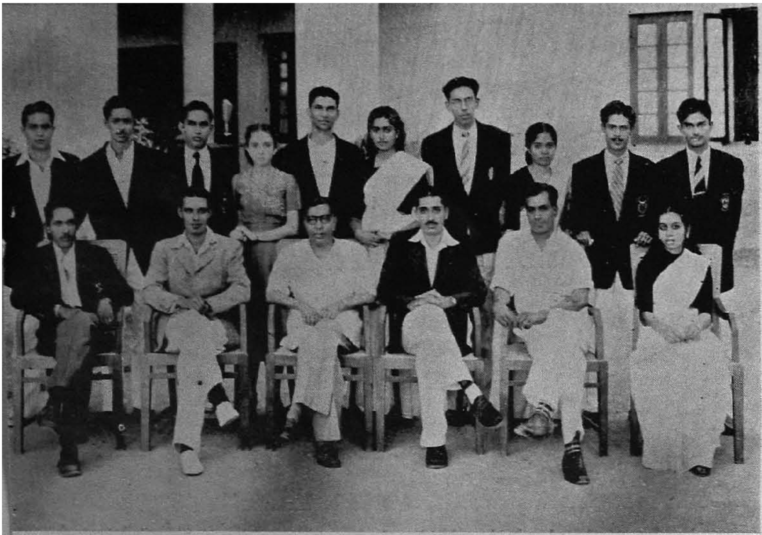
3 0 APR 19

MR. GOVINDAN NAIR
Represented the University in Tennis



TENNIS TEAM
INTER COLLEGIATE WINNERS.

Standing: (L to R) Mr. Jaykumar, T. M., Mr. J. A. Mosses; Mr. K. Gopinatha Kottoor. Mr. Govindan Nair.
Sitting: Miss Ganga K., Miss Mariamma Joseph.



ATHLETIC ASSOCIATION COMMITTEE

Standing: (L to R) Mr. Titus A. Veliath; Mr. R. Parameswaran; Mr. George Verghese; Miss Essie D'Sassoon; Mr. P. Christdas; Miss Mariamma Joseph; Mr. J. A. Mosses; Miss P. A. Thankamma; Mr. T. C. Rajan; Mr. George Mathew. (Captains of the various teams.)

Sitting: (L to R) Mr. Rajan Mathew (Vice President); Dr. Monsurite (Hon. Treasurer.) Dr. T. K. Raman (President); Mr. Mathew Thomas (Gen: Secretary); Mr. Thomas Jacob (Physical Director); Miss Rita Chithalan.

HOCKEY TEAM

WINNERS OF THE INTER COLLEGIATE TROPHY

Standing: (L to R) Messrs P. Vikraman; D. Ram; B. Mohtha; K. T. Antony; George Mathew; Benjamin Pulimood; N. K. Menon; Damodaran Nambeesan; Ananthanarayanan.

Sitting: (L to R) Messrs Mohan Veliath; Baker Fenn; Dr. T. K. Raman (Principal); Titus A. Veliath (Captain); Thomas Jacob (Physical Director.) O. S. Menon.

Report of the Athletic Association

A very active and successful year has come to a close. Our achievements had been many; but these have only kindled our smouldering fire of ambition. We have tried our best to uphold the spirit of sports. If we have achieved this the purpose of the Athletic Association is more than served.

MATHEW THOMAS,
General Secretary.

TENNIS CLUB

The play began in right earnest from the month of July. All the members of the club took keen interest in the game through out the year.

As usual we participted in the Intercollegiate Tennis Championships. The team consisted of the following players.

(1) Sri. J. A. Moses (Captain)
(2) ,, K. Gopinath Kottoor.
(3) ,, R. Govindan Nair.
(4) ,, T. M. Jaykumar.
(6) Smt. K. Ganga.
(6) ,, Mariamma Joseph.

Sri. K. Gopinath Kottoor crushed all opposition to win the Men's singles title and retained his supremacy in intercollegiate Tennis. K. Gopinath Kottoor in combination with J. A. Moses won an easy victory in the Men's doubles. In the tournament played on Davis Cup Lines, we beat Engineering College in the challenge round and won the trophy for the third time in succession. In the women's event, despite stiff opposition we came out with credit winning both titles. Miss. K. Ganga who won the singles title, scored a meritorious double by winning the doubles event with Miss Mariamma Joseph as her partner. Thus we have conquered all the trophies in Intercollegiate Tennis this year. R. Govindan Nair represented Travancore University in the Inter-university Tennis Championships played at Mysore. K. Gopinath Kottoor won the Kerala State Championship for the second time. He represented Kerala in the Indian National Championships at Calcutta. All India Hard-court championships at Bombay and in the Madras Hard Court Championships.

CAPTAIN,
Tennis.

VOLLEY BALL CLUB

Regular practice was begun early in the season. The keen enthusiasm evinced by the members is really appreciable. Inspite of our earnest attempt we were not able to make any substantial victories.

Team Players

(1) Mr. Nambeesan.
(2) ,, Mathew Thomas P.
(3) ,, Chellappan G.
(4) ,, Christudas, C.
(5) Mr. George Varughese.
(6) ,, Panicker.
(7) ,, Thomas Abraham.
(8) ,, Christudas P. (Captain)

CAPTAIN,
Volley Ball.

HOCKEY CLUB

The academic year 1956-'57 was a gala year for us in Hockey as we swept off the much coveted Inter-collegiate Hockey Cup for the first time. In the league tournament we fared well above the average. Now introduction to each player.

George Mathew the custodian whose popularity is such that he has a strip of youngsters constantly around him. He represented the district team.

Right back *Bertie Motha* though a bit erratic is still a stalwart in our defense.

K. T. Antony the left back is a terror because of his mammoth size.

Left half back *Andrew Veliath* nick named Joe Louis by the spectators lives quite up to the name.

Centre half back *Ram* is a scintillating player who is to spoil himself by his keen interest in cricket.

Right half-back *Nambeesan* is a very intelligent player.

Centre forward *Fenn* is a reliable forward and a goal getter.

Left inner *O. S. Menon* definitely the Wizard and bulwark of the team by his spectacular stick work and flashing shots usually leads us to victory.

Right extreme *N. K. Menon* whose speed is such that the ball usually lags behind.

Right extreme *Benjamin Pulimood* is worth watching. As for *Myself* who fill the right inner position, and don't wish to make any comment.

Thus ended a very successful year and I wish greater success for the coming year's team.

TITUS VELIATH,
Captain.

CRICKET CLUB

Regular practice in cricket was started during the first week of July and keen interest was shown by all the players. For the first time we are heading the league tables. Out of the 8 matches we played, we won 6 and drew 1. In the Inter-collegiate tournament, we beat the Engineers. It is a matter of pride that 6 of our college players-Dr. Korah, Dr. Pandalai, Mr. Ramaswamy, Mr. Karunakaran, Mr. Kukillaya and Mr. Parameswaran were selected to represent the South Zone. Dr. Korah was selected to represent the state. Altogether, we can look back with satisfaction at our performance this year. Thanks are but a poor outlet to the sentiments I have for the players who were so co-operative on and off the field. My thanks are also due to the members of the staff who assisted us in the league matches and Dr. Monsurate who gave the players and myself useful advices.

The following formed our team:—

(1) Dr. K. Venugopal
(2) Mr. Baker Fenn
(3) ,, Titus Veliath
(4) ,, Karunakaran
(5) ,, Kukillaya
(6) ,, D. Ramaswamy
(7) ,, R. Parameswaran
(8) ,, K. G. Kottoor
(9) ,, Andrew Veliath
(10) ,, J. A. Moses
(11) ,, Mukundan
(12) ,, S. Ramachandran
(13) ,, N. K. Menon

Wishing the next year's captain the best of luck.

CAPTAIN,
Cricket.

BASKET BALL CLUB

This year's activities started early this season. The enthusiasm evinced by the members is really satisfactory. We are runners-up in the Inter Collegiate Tournament.

We are proud of the fact that Mr. Thomas Abraham and Mr. C. B. C. Warrier represented the University while Mr. Mathew Roy and Mr. Mathew Thomas were selected to represent the Kerala State.

Team Players

(1) Mr. C. B. C. Warrier
(2) ,, Asok Kumar
(3) ,, P. C. Mathew
(4) ,, Mathew Roy
(5) ,, Thomas Abraham
(6) ,, P. K. Alexander
(7) ,, K. T. Antony
(8) ,, K. M. Joseph
(9) ,, P. T. Cherian
(10) ,, V. A. Punnose
(11) ,, Mathew Thomas P. (Captain)

CAPTAIN,
Basket Ball.

ATHLETIC CLUB

We made a fine bid to win the championship in the Inter-Collegiate Athletic meet held at Ernakulam this year. We were really unlucky enough to loose the championship with a narrow margin of five points being runners-up with 32 points.

It is a matter of extreme elation for me to state that one among us Mr. Varughese Paul was selected to represent the University this year. He was also the inter-collegiate champion in the Inter-collegiate athletic meet at Ernakulam. He was again the individual champion for the Kerala Olympic sports held at Trivandrum.

Team Members

(1) Mr. Varughese Paul
(2) ,, George Mathew
(3) ,, N. K. Menon
(4) ,, Thomas Abraham
(5) ,, K. T. Antony
(6) ,, Rajan Mathew
(7) ,, P. T. Cherian
(8) ,, Poorooor Vikraman
(9) ,, P. S. Joseph
(10) ,, George Varughese (Captain)

CAPTAIN,
Athletics.

FOOT BALL CLUB

This year's activities and performance of the association have clearly proved that foot-ball is catching up more interest among our students. The activities of the foot-ball club started with a number of practice matches played both at home grounds and outside. Our performance in all these matches was exceptionally good. But unfortunately we made our exit from the Inter-collegiate Tourney in the second round being defeated by Mar Ivanios College by a solitary goal. Our performance, though modest, has given ample evidence of good potential among our players which can be successfully utilised in the forthcoming years. It is a matter of extreme elation that Mr. George Mathew doned the colours of the University this year.

I hope that with the enthusiasm and interest evinced by the members in foot-ball, our performance next year may far exceed that of this year. Wishing the next year's team every success.

Team Players

(1) Mr. Benjamin Mani Pulimood
(2) „ T. C. Joseph
(3) „ Mathew Thomas P.
(4) „ Sukumara Pillai
(5) „ Varughese Paul
(6) „ Chellappan G.
(7) „ Nambeesan
(8) „ Titus Veliath
(9) „ M. S. Sebastian
(10) „ George Varughese
(11) „ Rajan Mathew
(12) „ Frederic Noel Vaz.
(13) „ N. K. Menon
(14) „ George Mathew (Captain)

CAPTAIN,
Foot Ball.

TABLE TENNIS CLUB

This year Table Tennis at last got its rightful place in the Executive Committee of the Trivandrum Medical College. Mr. T. C. Rajan was elected as the captain

Our men's team for the Inter-collegiate Tournament, consisting of Mr. T. C. Rajan, Mr. P. Sukumaran, Mr. S. Gopinathan Nair and Mr. K. M. Abraham retained the Gladys-Vincent Trophy for the third year in succession.

The highlight of this year was the sensational performance of our Ladies' Team. We put up two teams with Miss Muriel Crowther (Captain) and Essie De Sassoon in the 'A' team; Miss. Chandrika Neelakantan and Miss. Indira Nair in the 'B' team. Inspite of practically no practice our girls put up such an inspired game that both our teams smashed all opposition including the Women's College team, winnners for the last two years in succession. Both our Ladies' teams reached the finals. Thus winners and runners-up for the women's title for the first time which is indeed something to be proud of. Our Men's 'B' team consisting of Mr. Balaraman Pillai, Mr. Velayudha Panicker, Mr. Cheriyan Joseph and Mr. Vasudevan Achari also put up a creditable show to reach the Semi-finals.

Mr. P. Sukumaran, who has been our mainstay with the Inter-collegiate Tournament all the three years by remaining unbeaten in the series, and who has contributed so much to the game here, is leaving the college as a full-pledged doctor. We wish him the best of luck.

Thus the Table Tennis teams have maintained the high reputation of our college in the field of sports and it is up to our numerous boys and girls to keep the flag flying high always. We wish them all luck.

CAPTAIN,
Table Tennis.

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Out Going Students of the Year

1. Abdul Magid Khan
C/o. Dr. M. Usman Khan
Mattanchery.

2. Aleykutty K. M.
Kochuparambil House
Memadangu
Arakuzha, Muvattupuzha.

3. Antony K. T.
Kanichayi House
Vynthala
Palayamparambu P. O.

4. Ambikatmajan Nair G. N.
C/o. Konniyoor S. Govinda Pillai
Kandiyoor
Mavelikara.

5. Ambujakshan V. P.
Kandathil House
Kumbalangy

6. Balachandran P. K.
Rose Mount
Vanchiyoor, Tvm.

7. Balakrishnan P.
T. C. 916
Pound Road
Thykadu
Tvm-1.

8. Balakrishnan V.
C/o. V. Sankara Panicker
Chief Acct. & Auditor
Office of Dist. Transport
Tvm.

9. Balasubramonian G.
C/o. V. Ganapathy Achari
Chettikulam Road
Ramavarmapuram
Nagercoil.

10. C. B. C. Warrier
Chempakassery
Haripad.

11. Chandrika Neelakantan
Kunnumpuram
S. Paravur.

12. Cheriyan T. K.
Thoppil Puthen Veedu
Puthiakave
Mavelikara

13. Cheriyan P. T.
Pulivelil House
Vadaserikara.

14. Damodaran Narisan
Garudankave
Alathiyoor P. O.
S. Malabar.

15. Elizabeth Oommen
C/o. K. P. Oommen
Kurunthottikkal
Melukara, Kozhancherry.

16. Gangadharan C.
Karuvila Veedu
Charayachira
Tvm.

17. George V. D.
Vadakemattom House
Mankompu
Erattupetta.

18. George V. J.
Padipurakal House
Thrikodithanam
Perunna P. O.

19. George Verghese
Tholasserry
Thiruvalla.

20. GLORIAMMA VERGHESE
C/o. Sri A. T. Verghese
Parvathi Estate
Munnar.

21. GOPALAKRISHNA PANICKER K. G.
Vadakkal House
Thalavady South
Thalavady.

22. INDIRA NAIR
Thekkemudavakatt House
Patturaikal
Trichur.

23. JACOB JOHN T.
C/o. Rev. T. V. John
Alwaye.

24. JAYKUMAR T. M.
C/o. M. Thanu Pillai
Motor Engineer
Thycaud
Tvm.

25. JOSEPH K. M.
C/o. Prof. Puthencavu Mathen Tharakan
Pathanamthitta.

26. JOSEPH T. C.
Thottachery
Chethipuzha
Changanacherry.

27. JOSE SAMSON
Pallickathayyil
Arthunkal
Sherthalai.

28. JUBILEE M. B.
C/o. M A. Bhaskaran
Vidya Madham
Kalady.

29. KOMALAM C. M.
Chirayathu House
Moolankudy
Cochin.

30. KURUVILLA M. J.
Manickanam Parambil
Pothotta
Vaikom.

31. LALITHAMBAL L.
C/o. Lakshmi Narayan Potti
Pleader
Attingal.

32. LAZAR A. M.
Allummoottil House
Kumarapuram
Thakkala.

33. LETHA DEVI G.
Letha Cottage
Barton Hill Rd.
Tvm.

34. LILLY RAGHAVAN
Manjavilla House
Vakkom
Kadakavoor.

35. MARY CHERIYAN
C/o. C. T. Cheriyan
Retd. Head Master
Eraviperoor.

36. MATHEW K. J.
C/o. K. J. Joseph
C. J. Medico Trading Co.
Changanacherry.

37. MATHEW P. C.
C/o. P. M. Cheriyan
A. C. M. M. Hospital
Karukachal.

38. MATHEW PHILIP
C/o. Dr. A. P. Mathew
478 Kandyoor
Tvm.

39. MUKUNDAN M.
East Makapuzha House
Thiruvambadi
Trichur.

40. NEELAKANTAN ACHARI
Punathil House
Keeramparakara
Kothamangalam.

41. PHILIP ALEXANDER
C/o T. P. Chandy
Chempukavu
Trichur

42. RAGHUNATHAN K.
Kunnumpuram
S. Parvoor.

43. RAJAMMAL I.
Medayam Veedu
Vellikode
Mullagumoodu

44. RAJAN T. C.
C/o T. S. Chauthunny
Project Enginner
Trichur.

45. RAMAN T.
Akathudathil House
Cheled
Kothamangalam.

46. RAVINDRANATHAN K.
Kalathiparambil House
Vallakadu
Narakal.

47. SAINABA M. K.
C/o V. Abdul Rehman
Merchant
Alawye.

48. SANY VARGHESE
Cherayil House
Ackarapadom

49. SARAMMA JOSEPH
C/o V. J. Joseph
Post Master Vallakadavu
Tvm-8.

50. SASIKALABAI KAMATH
C/o Kamath & Co.,
Broadway
Ernakulam.

51. SATHASIVARAM R.
Sree Ram Vilas
Paraka
Nagercoil.

52. SIVARAMAKRISHNA AIYAR
C/o Swamiswaran
Travancore Merchantile Corporation
P. B. 158
Alleppey.

53. SREEDHARAN K. S.
Kocharil
Perunthanam
Uzhavoor.

54. SREEDHARAN O.
21/260 Ravipuram Road
Ernakulam.

55. SUGUNABAI N. S.
Kunnumpurathu Veedu
T. C. 652
Kannanmoola
Tvm.

56. UMADEVI ANTHARJANAM K.
Puthiyadathu Madom
Azhoor
Pathanamthitta

57. VARGHESE K. V.
Kamamkerril House
Kumbalanghi.

58. VARGHESE P. J.
Palathingal House
Eroor
Tripunithura.

59. VARGHESE P. I.
Pynadathu House
Perumpavoor.

60. VASAVAN NAYAR N.
Vasantha Vilasm
Kattakada.

61. WILSON K. S.
Dharma Vilas
Kurumpilavu
Trichur.

1. ABDUL SALAM A.
Kundaravilakom
Meenamkulam
Kazhakuttam.

2. ANTONY N. A.
Neduvelly House
Kumbalanghi.

3. ACHUTHAN NAIR
Bharathi Sadan
Sasthamangalam
Trivandrum.

4. BALARAMAN PILLAI
Paivallil House
Cherukol
Mavelikara,

5. B. M. PULIMOOD
C/o P. M. Mani
Kalloor Road
Ernakulam.

6. CHERIYAN JOSEPH
C/o Dr. C. Joseph
District Health Officer
Trivandrum.

7. GEORGE M. J.
Moolael House
Nanthankode.

8. N. V. GEORGE
C/o Miss. T. Varghese
34 Willington Street
Rich Mond Town
Banglore.

9. GOPALAKRISHNAN N.
C/o Dr. P. K. Narayanan
Kayamkulam.

10. GOPALA KURUP P.
Kunnathu House
Puthiavila
Keerikadu.

11. HARINDRAN NAIR
Vasanthi Mandiram
Sasthamangalam
Tvm.

12. HARIHARA AIYAR
C/o A. Sivaramakrishna Aiyar
Manager
Industrial Works
Attingal.

13. IRENE ROSALIND
T. C. 61 B
Vazhuthakadu
Tvm.

14. JAYAKUMARI C.
Santhinikethan
Jagathi
Tvm.

15. JOHN K. M.
Kakattukuzhi
Palachodu
Piravam.

16. JOY M. I.
House No. 13/331
Convent Road
Ernakulam.

17. KANDASWAMI V.
Kuthampilli
Thiruvillvamala.

18. KOCHUTHERISA K. KURIAN
Kunnel House
Moolamattam
Arakulam.

19. KUMARA DASAN
Kanjiram
Nilkunnathil House
Vallicodu
Kaipattoor.

20. KURIAKOSE P. M.
Puluiat House
Kunnakurudi
Keezhillam.

21. LEELA M. JACOB
C/o M. C. Jacob
Shenoy Buildings
Tripunithura Road
Ernakulam.

22 MADHAVANKUTTY
Theka Vellapillil House
Cranganoore.

23 MARY ANGELA MOREBA
Tank view
Kunnukuzhi
Trivandrum.

24 MARY DAVIS
C/o. DAVIS S. VEDAKON
Villa Veedons
Erattupetta.

25 MATHEW ROY
C/o. V. A. Chacko
Retd. Headmaster
Kurianoor
Aiyroor

26 MOLLY VARGHESE
C/o. M. C. Varghese
Supt. K. V. Sanitorium
Mulamkunnathukavu
Trichur.

27 MURIEL CROWTHER
Kotavillai Bunglow
Mekkey Mandapam.

28 NARAYANA KURUP
Palluvelil house
Pallipuram
Sherthalai.

29 OMANA KOSHY
C/o. T. K. Koshy
Retd. D. P. I.
Mulakazha.

30 PADMAJAN PILLAI
Navarakkal house
Muthukulam.

31 RADHAMMA D.
Thayyil Puthuval house
Mangalam, Thrikunnapuzha.

32 RAJAN V. K.
Mohanalayam
Thevara.

33 SADASIVAN G.
Theduvila house
Nedungolam, Quilon.

34 SANKARANARAYAN D.
35 South Masi Street
Thenkasi.

35 SARADA A. K.
Andezhath House
Kanjany
Manalur, Trichur.

36 SARALA C.
C/o. Ambadi Krishna Menon
Advocate
Ernakulam.

37 SAVITHRI N.
Polachira House
Pazhavoor
Earoor.

38 SIVASANKARAN NAYAR S.
T. C. No. 660
Dharmalayam Road
Thampanoor,
Trivandrum.

39 SOUTHA BEEVI
Padanilam House
Kaikulangara
Quilon.

40 SREE DEVI K.
Sree Devi Nivas
Layam Road
Tripunithura.

41 SREEDHARAN PILLAI N. K.
Neduvellil House
Kulasekharamangalam
Vaikom.

42 SUDHAKARAN K.
C/o. L. K. Mallaya
Supt. of Records
Government Secretariate
Trivandrum.

43 SUMITRA A.
7774 Rama Varmapuram
Nagercoil.

44 THAMPI VARGHESE
C/o. K. A. Varghese
Retd. Headmaster
Tripunithura.

45 THOMAS T. P.
Vettikanam Estate
Kuttickal
Mundakayam.

46 VENKITACHALAM AYYAR
Palla Street
Vadiveeswaram
Nagercoil.

47 VILASINI S.
" Shanco ". Beach
Trivandrum.

48 VISWANATHAN V.
C/o. V. P. Vidyanatha Ayyar
Retd. Chief Justice
Trichur.

49 ABDUL GHAFOOR
Manappad House
Eriyad, Cranganoore.

50 ALEXANDER P. K.
Ponvanibhom
Pullimootil
Kayamkulam.

51 KUTTY KRISHNAN NAYAR
Mekkali Madom
Thuravoor, Sherthalai.

52 MOHAMED ILIAS P.
Panayil, Puthen Veedu,
Puthen Kurichi
Kadinamkulam.

53 PURUSHOTHAMAN C. K.
Kudakuthum Parambil
Alleppey.

54 S. S. RAJAN
Kalpa Villakattu Veedu
Marthandam.

55 RAMACHANDRAN K.
Kollentekuttyiel House
Manakara, Sasthankotta.

56 RAMASWAMI N. S.
V/269 Buildings
Konathparambu
Ernakulam.

57 THOMPSON MATHEW P.
Parekattu House
Bharananganam, Palai.

58 MOHAMMAD FAZLUDDIN
Padinjathethil
Pathanapuram.